

Question Number : 208 Question Id : 640653815154 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Short Answer Question

A quality control manager at a factory measures the thickness of glass sheets produced. Five randomly selected sheets have the thicknesses(in *mm*) 10, 8, 11, 9, 12 respectively. Assuming the thickness follows a normal distribution and the variance is known, what is the maximum likelihood estimator (MLE) of the mean thickness, (μ), in *mm* of the glass sheets?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Java

Section Id :	64065356660
Section Number :	10
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	24
Number of Questions to be attempted :	24
Section Marks :	100
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No

Enable Mark as Answered Mark for Review and Clear Response :

Yes

Maximum Instruction Time :

0

Sub-Section Number :

1

Sub-Section Id :

640653118700

Question Shuffling Allowed :

No

Is Section Default? :

null

Question Number : 209 Question Id : 640653815155 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : PROGRAMMING CONCEPTS USING JAVA (COMPUTER BASED EXAM)"

ARE YOU SURE YOU HAVE TO WRITE EXAM FOR THIS SUBJECT?
CROSS CHECK YOUR HALL TICKET TO CONFIRM THE SUBJECTS TO BE WRITTEN.

(IF IT IS NOT THE CORRECT SUBJECT, PLS CHECK THE SECTION AT THE [TOP](#) FOR THE SUBJECTS REGISTERED BY YOU)

Options :

6406532731122.  YES

6406532731123.  NO

Sub-Section Number :

2

Sub-Section Id :

640653118701

Question Shuffling Allowed :

Yes

Is Section Default? :

null

Question Number : 210 Question Id : 640653815156 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the Java code given below.

```
1 class ClassOne{
2     public void methodOne(){
3         // ...
4     }
5     public void methodTwo(){
6         // ...
7         methodOne();
8         // ...
9     }
10 }
11 class ClassTwo{
12     public static void methodThree(){
13         // ...
14         ClassOne c = new ClassOne();
15         c.methodTwo();
16         // ...
17     }
18     public static void main(String[] args) {
19         // ...
20         methodThree();
21     }
22 }
```

During execution of Line 8 in the above code, the activation record of which method is at the top of the stack of activation records?

Options :

6406532731124. ✖ main

6406532731125. ✖ methodOne

6406532731126. ✔ methodTwo

6406532731127. ✖ methodThree

Question Number : 211 Question Id : 640653815157 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the Java code given below.

```
class Product {
    private String productName;
    public Product(String pn) {
        productName = pn;
    }
    public Product(Product p) {
        this.productName = p.productName;
    }
    public void setProductName(String pn) {
        productName = pn;
    }
    public String getProductName() {
        return productName;
    }
}

public class InventoryTest {
    public static void main(String[] args) {
        Product p1 = new Product("Laptop");
        Product p2 = new Product(p1);
        Product p3 = p1;
        p1.setProductName("Smartphone");
        System.out.println(p1.getProductName());
        System.out.println(p2.getProductName());
        System.out.println(p3.getProductName());
    }
}
```

What will the output be?

Options :

Smartphone

Laptop

6406532731128. ✖ Laptop

6406532731129. ✔

Smartphone
Laptop
Smartphone

Smartphone
Smartphone
Smartphone
6406532731130. ✖

Smartphone
Smartphone
Laptop
6406532731131. ✖

Question Number : 212 Question Id : 640653815158 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4
Question Label : Multiple Choice Question

Consider the Java code given below.

```
class Shape {
    public void draw() {
        System.out.println("Drawing a generic shape.");
    }
    public void area() {
        System.out.println("Calculating area of the shape.");
    }
}
class Circle extends Shape {
    public void draw() {
        System.out.println("Drawing a circle.");
    }
}
class Square extends Shape {
    public void draw() {
        System.out.println("Drawing a square.");
    }
}
public class ShapeApp {
    static void describe(Shape sh) {
        sh.draw();
        sh.area();
    }
    public static void main(String[] args) {
        Shape circle = new Circle();
        Shape square = new Square();
        describe(circle);
        describe(square);
    }
}
```

Choose the correct option.

Options :

It generates the output as:
Drawing a generic shape.
Calculating area of the shape.
Drawing a generic shape.
Calculating area of the shape.

6406532731132. ✖

6406532731133. ✖ Compilation fails because Circle and Square cannot be converted to Shape

6406532731134. ✖ Compilation fails because area() method has not been defined in classes Circle and Square

It generates the output as:
Drawing a circle.
Calculating area of the shape.
Drawing a square.
Calculating area of the shape.

6406532731135. ✔

Question Number : 213 Question Id : 640653815159 Question Type : MCQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the code given below that checks whether two cars have the same manufacturer. Method `equals` is overridden to compare two `Car` objects as follows. If two cars have same manufacturer then they are said to be the same. Based on the given information, answer the question that follows.

```
class Car {
    private String model;
    private String manufacturer;

    // Constructor to initialize instance variables

    public String toString() {
        return model;
    }
    public boolean equals(Object obj) {
        // CODE BLOCK
    }
}

public class CarEqualsTest {
    public static void main(String[] args) {
        Car car1 = new Car("Sedan", "Toyota");
        Car car2 = new Car("SUV", "Honda");
        Car car3 = new Car("Hatchback", "Toyota");
        if (car1.equals(car3)) {
            System.out.println(car1 + " and " + car3 + " belong to the same brand");
        }
        if (car2.equals(car3)) {
            System.out.println(car2 + " and " + car3 + " belong to the same brand");
        }
    }
}
```

Choose the correct option to fill in place of CODE BLOCK so that the output is:

Sedan and Hatchback belong to the same brand

Options :

```
        if(obj instanceof Car) {
            if(this.manufacturer.equals(obj.manufacturer))
                return true;
        }
```

6406532731136. ✖ return false;

```
        if(this.manufacturer.equals(obj.manufacturer))
            return true;
```

6406532731137. ✖ return false;

```
if(obj instanceof Car) {  
    Car c = (Car) obj;  
    if(this.manufacturer.equals(c.manufacturer))  
        return true;  
}
```

6406532731138. ✓ return false;

```
if(obj instanceof Car) {  
    Car c = obj;  
    if(this.manufacturer.equals(c.manufacturer))  
        return true;  
}
```

6406532731139. ✗ return false;

Question Number : 214 Question Id : 640653815160 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the code given below.

```
interface MessageService {
    void sendMessage();
}
class MessagingApp {
    public TextMessaging getTextMessaging() {
        return new TextMessaging();
    }
    public VoiceMessaging getVoiceMessaging() {
        return new VoiceMessaging();
    }
    private class TextMessaging implements MessageService {
        public void sendMessage() {
            System.out.println("Sending text message");
        }
    }
    private class VoiceMessaging implements MessageService {
        public void sendMessage() {
            System.out.println("Sending voice message");
        }
    }
}
public class Test {
    public static void main(String[] args) {
        MessagingApp m = new MessagingApp();
        //CODE BLOCK
        obj1.sendMessage();
        obj2.sendMessage();
    }
}
```

Choose the correct option to fill in place of CODE BLOCK so that the output is:

Sending text message
Sending voice message

Options :

6406532731140. ✖ `TextMessaging obj1 = new TextMessaging();`
`VoiceMessaging obj2 = new VoiceMessaging();`

6406532731141. ✔ `MessageService obj1 = m.getTextMessaging();`
`MessageService obj2 = m.getVoiceMessaging();`

```
TextMessaging obj1 = m.getTextMessaging();  
6406532731142. ✖ VoiceMessaging obj2 = m.getVoiceMessaging();
```

```
MessageService obj1 = new TextMessaging();  
6406532731143. ✖ MessageService obj2 = new VoiceMessaging();
```

Question Number : 215 Question Id : 640653815161 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the code given below.

```
interface WashingMachine {
    default void getCapacity() {
        System.out.println("Capacity : 8kg");
    }
    default void startWash() {
        System.out.println("Started washing");
    }
}
class LGWasher implements WashingMachine { //LINE 1
    public void startWash() {
        System.out.println("Started LGwasher");
    }
}
class SamsungWasher implements WashingMachine { // Line 2
    public void getCapacity() {
        System.out.println("Capacity : 9kg");
    }
}
public class Test {
    public static void main(String[] args) {
        WashingMachine w[] = new WashingMachine[2];
        w[0] = new LGWasher();
        w[1] = new SamsungWasher();
        for (int i = 0; i < w.length; i++) {
            w[i].getCapacity();
            w[i].startWash();
        }
    }
}
```

Choose the correct option.

Options :

6406532731144. ✖ ☐ Compilation error at LINE 1 because method `getCapacity()` is not overridden in class `LGWasher`

6406532731145. ✖ ☐ Compilation error at LINE 2 because method `startWash()` is not overridden in class `SamsungWasher`

6406532731146. ✖ ☐ This program generates the output:
Started LGwasher
Capacity : 9kg

This program generates the output:

Capacity : 8kg

Started LGwasher

Capacity : 9kg

6406532731147. ✓ Started washing

Question Number : 216 Question Id : 640653815162 Question Type : MCQ Is Question

**Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time : 0**

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the code given below.

```
abstract class Fruit {
    abstract void peel();
    void eat() { // LINE 1
        System.out.println("Eating fruit");
    }
}

class Banana extends Fruit {
    void peel() {
        System.out.println("Peeling banana");
    }
    void eat() {
        System.out.println("Eating banana");
    }
}

class Apple extends Fruit {
    void peel() {
        System.out.println("Peeling apple");
    }
    void eat() {
        System.out.println("Eating apple");
    }
}

public class TestAbstract {
    public static void main(String[] args) {
        Fruit f1 = new Banana(); //LINE 2
        Fruit f2 = new Apple();   //LINE 3
        f1.eat();
        f1.peel();
        f2.eat();
        f2.peel();
    }
}
```

Choose the correct option regarding the above code.

Options :

6406532731148. ✖ LINE 1 generates compilation error because abstract class must contain only abstract methods.

6406532731149. ✖ LINE 2 and LINE 3 generate compilation errors because reference variable of type Fruit cannot store the objects of type Banana and Apple.

This program generates the output:

Eating banana
Peeling banana
Eating apple
Peeling apple

6406532731150. ✓

This program generates the output:

Eating fruit
Peeling banana
Eating fruit
Peeling apple

6406532731151. ✖

Question Number : 217 Question Id : 640653815163 Question Type : MCQ Is Question

**Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time : 0**

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the Java code given below.

```
interface Iterator{
    public boolean has_next();
    public Object get_next();
}
abstract class Printable{
    public abstract void print();
}
class ClientList{
    private final int limit = 3;
    private Client[] list = { new Client("Joseph", "C1001"),
        new Client("Mili", "C1002"),
        new Client("Byju", "C1003")
    };
    private class Client extends Printable{
        private String name, invoiceNo;
        public Client(String n, String i) {
            //initialize name and invoiceNo
        }
        public void print() {
            System.out.println(invoiceNo + ", " + name);
        }
    }
    private class ClntIter implements Iterator{
        private int indx;
        public ClntIter() {
            //constructor
        }
        public boolean has_next() {
            //if next element available in list return true;
            //else false
        }
        public Object get_next() {
            //return next element from list
        }
    }
    public Iterator getIterator() {
        return new ClntIter();
    }
}

public class IterTest{
    public static void main(String[] args) {
        ClientList cList = new ClientList();
        Iterator iter = cList.getIterator();
        while(iter.has_next()) {
            _____;    //LINE 1
        }
    }
}
```

Identify the appropriate statement to fill in the blank at LINE 1, such that the output is:

C1001, Joseph
C1002, Mili
C1003, Byju

Options :

6406532731152. ✓ ((Printable)iter.get_next()).print()

6406532731153. ✖ ((Client)iter.get_next()).print()

6406532731154. ✖ ((ClientList)iter.get_next()).print()

6406532731155. ✖ iter.get_next().print();

Question Number : 218 Question Id : 640653815165 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the Java code given below.

```
import java.util.*;
public class Football {
    public static void main(String[] args) {
        var wc = new LinkedHashMap<String, Integer>();
        var ac = new LinkedHashMap<String, Integer>();

        var brazil = new LinkedHashMap<String, Integer>();
        brazil.put("BRA WC", 5);
        ac.put("BRA AC", brazil.getDefault("BRA AC", 0));
        wc.put("BRA WC", brazil.getDefault("BRA WC", 0));

        var germany = new LinkedHashMap<String, Integer>();
        germany.put("GER AC", 4);
        wc.put("GER WC", germany.getDefault("GER WC", 0));
        ac.put("GER AC", germany.getDefault("GER AC", 0));

        for (Map.Entry<String, Integer> obj1 : wc.entrySet())
            System.out.println(obj1.getKey() + " " + obj1.getValue());

        for (Map.Entry<String, Integer> obj2 : ac.entrySet())
            System.out.println(obj2.getKey() + " " + obj2.getValue());
    }
}
```

Choose the correct option.

Options :

This program generates the output:

BRA WC 5

GER AC 4

GER WC 0

BRA AC 0

6406532731160. ✖

This program generates the output:

BRA WC 5

GER WC 0

BRA AC 0

GER AC 4

6406532731161. ✔

6406532731162. ✖

This program generates the output:

```
BRA WC 5  
GER WC 4  
BRA AC 5  
GER AC 4
```

This program generates the output:

```
BRA WC 0  
GER WC 0  
BRA AC 0  
GER AC 0
```

6406532731163. ✖

Question Number : 219 Question Id : 640653815166 Question Type : MCQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the Java code given below.

```
import java.util.*;  
public class TaskQueue {  
    public static void main(String[] args) {  
        ArrayDeque<String> taskDeque = new ArrayDeque<String>();  
        taskDeque.add("Write Report");  
        taskDeque.add("Review Code");  
        taskDeque.add("Attend Meeting");  
        taskDeque.add("Test Application");  
        taskDeque.add("Submit Proposal");  
  
        PriorityQueue<String> priorityQueue =  
            new PriorityQueue<String>(taskDeque);  
        while (priorityQueue.size() > 0) {  
            System.out.println(priorityQueue.poll());  
        }  
    }  
}
```

Choose the correct option.

Options :

This program generates the output:

Write Report
Review Code
Attend Meeting
Test Application
Submit Proposal

6406532731164. ✖

This program generates the output:

Submit Proposal
Test Application
Attend Meeting
Review Code
Write Report

6406532731165. ✖

6406532731166. ✖ Compilation error as taskDeque cannot be passed as argument to PriorityQueue

This program generates the output:

Attend Meeting
Review Code
Submit Proposal
Test Application
Write Report

6406532731167. ✔

Question Number : 220 Question Id : 640653815167 Question Type : MCQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the code given below.

```
import java.util.*;
class EvenNumberException extends Exception {
    public String toString() {
        return "Even number encountered";
    }
}
class Test {
    public static void main(String[] args) {
        int[] values = {5, 15, 10, 8, 20};
        try {
            for (int i = 0; i < values.length; i++) {
                if (values[i] % 2 == 0) {
                    throw new EvenNumberException();
                }
                values[i] = values[i] * 2;
            }
        } catch (EvenNumberException e) {
            System.out.println(e);
        }
        for (int value : values) {
            System.out.print(value + " ");
        }
    }
}
```

What will the output be?

Options :

6406532731168. ✖ Even number encountered

6406532731169. ✖ 10 30 10 8 20

6406532731170. ✖ Even number encountered
10 30

6406532731171. ✔ Even number encountered
10 30 10 8 20

Question Number : 221 Question Id : 640653815168 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the Java code given below.

```
class Habitat implements Cloneable {
    private String environment;
    public Habitat(String env) {
        environment = env;
    }
    public void updateEnvironment(String env) {
        environment = env;
    }
    public Habitat clone() throws CloneNotSupportedException {
        return (Habitat) super.clone();
    }
    public String toString() {
        return environment;
    }
}

class Animal implements Cloneable {
    private String name;
    private Habitat habitat;
    public Animal(String n, String env) {
        name = n;
        habitat = new Habitat(env);
    }
    public void updateAnimal(String n, String env) {
        name = n;
        habitat.updateEnvironment(env);
    }

    public Animal clone() throws CloneNotSupportedException {
        return (Animal) super.clone();
    }
    public String toString() {
        return name + " : " + habitat;
    }
}

public class Zoo {
    public static void main(String[] args) throws CloneNotSupportedException {
        Animal lion = new Animal("Leo", "Savannah");
        Animal tiger = lion.clone();
        tiger.updateAnimal("Tina", "Jungle");
        System.out.println(lion + ", " + tiger);
    }
}
```

What will the output be?

Options :

6406532731172. ✖ Tina : Jungle, Tina : Jungle

6406532731173. ✔ Leo : Jungle, Tina : Jungle

6406532731174. ✖ Leo : Savannah, Tina : Jungle

6406532731175. ✖ Leo : Savannah, Tina : Savannah

Question Number : 222 Question Id : 640653815169 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the Java code given below:

```
import java.util.stream.*;
public class StreamTest {
    public static void main(String[] args) {
        Integer[] a = {12, 8, 9};
        Stream.of(a)
            .map((i) -> i - 20)
            .filter((i) -> i % 4 == 0)
            .forEach((x) -> System.out.println(x));
    }
}
```

What will the output be?

Options :

12
8
4

6406532731176. ✖

-11
-17

6406532731177. ✖

-8
-12
-11
-16
-17

6406532731178. ✖

-8
-12
-16

6406532731179. ✔

Question Number : 223 Question Id : 640653815170 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Method `Optional.ofNullable(T value)` returns an `Optional` that describes the specific value, if non-null; otherwise returns an empty `Optional`.

Based on this description, consider the code given below, and answer the question that follows.

```
import java.util.*;
class Course {
    HashMap<String, String> instructors = new HashMap<>();
    public Course() {
        instructors.put("Math", "Devan");
        instructors.put("Java", "Divya");
    }
    public String getInstructor(String subject) {
        return instructors.get(subject);
    }
}
public class Test {
    public static void main(String[] args) {
        Optional<String> i1 = Optional.ofNullable(new Course().getInstructor("Math"));
        Optional<String> i2 = Optional.ofNullable(new Course().getInstructor("Python"));
        i1.ifPresent(n -> System.out.println(n.toUpperCase()));
        i2.ifPresent(n -> System.out.println(n.toUpperCase()));
    }
}
```

Choose the correct option.

Options :

This program generates the output:

6406532731180. ✓ DEVAN

This program terminates due to `NullPointerException` after printing the message:

6406532731181. ✗ DEVAN

This program generates the output:

DEVAN

6406532731182. ✗ null

6406532731183. ✗

This program generates the output:

MATH
DEVAN

Question Number : 224 Question Id : 640653815171 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the Java code given below.

```
import java.io.*;
class MembershipCard implements Serializable {
    private String memberId = "*****";
    private transient int accessCode = 1000;
    private String issueDate = "00/00";
    public MembershipCard(String m, int a, String i) {
        this.memberId = m;
        this.accessCode = a;
        this.issueDate = i;
    }
    public String toString() {
        return memberId + ", " + accessCode + ", " + issueDate;
    }
}
public class Test {
    public static void main(String[] args) throws Exception {
        var fos = new FileOutputStream("membershipcard.txt");
        var os = new ObjectOutputStream(fos);
        os.writeObject(new MembershipCard("M987654", 1234, "01/25"));
        var fis = new FileInputStream("membershipcard.txt");
        var ois = new ObjectInputStream(fis);
        MembershipCard m = (MembershipCard) ois.readObject();
        System.out.println(m);
    }
}
```

What will the output be?

Options :

6406532731184. ✖ null, 0, null

6406532731185. ✓ M987654, 0, 01/25

6406532731186. ✖ M987654, 1000, 01/25

6406532731187. ✖ M987654, 1234, 01/25

6406532731188. ✖ *****, 1000, 00/00

Question Number : 225 Question Id : 640653815172 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the Java code given below.

```
import java.util.*;
import java.util.stream.*;
class Game {
    private String name;
    int participantsNeeded;
    //Constructor to initialize instance variables
    public String toString() {
        return name;
    }
}
public class Test {
    public static void main(String[] args) {
        var gamesList = new ArrayList<Game>();
        gamesList.add(new Game("Chess", 2));
        gamesList.add(new Game("Football", 22));
        gamesList.add(new Game("TableTennis", 4));
        gamesList.add(new Game("Poker", 5));
        Map<Boolean, List<Game>> gamesMap;
        gamesMap = gamesList.stream()
            .collect(Collectors.partitioningBy
                (g -> g.participantsNeeded >= 5));
        System.out.println(gamesMap.get(false));
    }
}
```

Choose the correct option.

Options :

6406532731189. ✖ This program generates the output: [Football, Poker]

6406532731190. ✖ This program generates the output: [Football]

6406532731191. ✔ This program generates the output: [Chess, TableTennis]

6406532731192. ✖ This program generates the output: [Chess, TableTennis, Poker]

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider the Java code given below. Assume that the file `garden.txt` contains the following lines of text in it.

A garden is a place of nature.

Garden blooms with vibrant flowers.

Garden offers a peaceful retreat.

```
import java.io.*;
import java.util.Scanner;
public class Test {
    public static void main(String[] args) {
        try {
            var in = new FileInputStream("garden.txt");
            var scanner = new Scanner(in);    //LINE 1
            System.out.println("Data from file:");
            System.out.println(scanner.nextLine());
            System.out.println(scanner.next());
            System.out.println(scanner.nextLine());
        }
        catch (FileNotFoundException e) {
            System.out.println("File does not exist.");
        }
        catch (IOException e) {
            System.out.println("Error in writing a file.");
        }
    }
}
```

Choose the correct option.

Options :

6406532731193. ✖ LINE 1 generates `IOException`.

This program generates the output:

Data from file:

A garden is a place of nature.

Garden blooms with vibrant flowers.

6406532731194. ✖ Garden offers a peaceful retreat.

6406532731195.

This program generates the output:
Data from file:
A garden is a place of nature.
Garden
✓ blooms with vibrant flowers.

This program generates the output:
Data from file:
A garden is a place of nature.
A
6406532731196. ✖ Garden offers a peaceful retreat.

Sub-Section Number :	3
Sub-Section Id :	640653118702
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 227 Question Id : 640653815164 Question Type : MSQ Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time : 0

Correct Marks : 6 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider the Java code given below that prints the highest turnover amount among a set of given `Turnover` objects. From among the options, identify the appropriate function header for the function `printHighestTurnover` that takes as input an array of `Turnover` objects and prints the highest turnover.

```
import java.util.*;
interface Turnover {
    public abstract double getTurnoverAmount();
}
public class GroceryStore implements Turnover {
    private double amount;
    // Constructor
    // method getTurnoverAmount() that returns amount
}
public class ClothingStore implements Turnover {
    private double amount;
    // Constructor
    // method getTurnoverAmount() that returns amount
}
public class Test {
    // LINE 1: FUNCTION HEADER
    {
        // invokes method getTurnoverAmount()
        // to print the value of highest turnover
    }
    public static void main(String[] args) {
        Turnover[] t = {new GroceryStore(85000.0), new ClothingStore(98000.0),
                        new GroceryStore(180000.0)};
        printHighestTurnover(t);
    }
}
```

Choose the correct option(s).

Options :

6406532731156. ✖ `public static <T extends GroceryStore> void printHighestTurnover(T[] items)`
6406532731157. ✔ `public static <T extends Turnover> void printHighestTurnover(T[] items)`
6406532731158. ✖ `public static <T extends ClothingStore> void printHighestTurnover(T[] items)`
6406532731159. ✔ `public static void printHighestTurnover(Turnover[] items)`

Question Number : 228 Question Id : 640653815174 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider the Java code given below.

```
class Pattern implements Runnable {
    boolean stopRequested = false;
    String[] pattern = {"Sa", "Ri", "Ga", "Ma", "Pa"};
    int index = 0;
    public void run() {
        while (!stopRequested) {
            System.out.print(pattern[index] + " ");
            index = (index + 1) % pattern.length;
        }
    }
    public void setStop(boolean stop) {
        stopRequested = stop;
    }
}

public class Test {
    public static void main(String[] args) throws InterruptedException {
        Pattern p = new Pattern();
        Thread t1 = new Thread(p);
        t1.start();
        p.setStop(true);
    }
}
```

Choose the correct option(s).

Options :

6406532731197. ✖ The program will always generate the output: Sa Ri Ga Ma Pa

6406532731198. ✖ The program will always generate the output: Sa

6406532731199.

✓ The output can be Sa or Sa Ri or Sa Ri Ga or Sa Ri Ga Ma or Sa Ri Ga Ma Pa

6406532731200. ✓ The program may not generate any output.

Sub-Section Number :	4
Sub-Section Id :	640653118703
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 229 Question Id : 640653815175 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider the Java code given below.

```
class ConcertVenue {
    int available = 1;
    public synchronized void bookTicket(int n, String name) {
        if (available >= n) {
            available = available - n;
            System.out.println(name + " booked " + n + " ticket");
        } else {
            System.out.println(name + " cannot book " + n + " ticket");
        }
    }
}

class TicketBooking implements Runnable {
    private ConcertVenue c;
    private String name;
    private int n_tickets;
    public TicketBooking(ConcertVenue c, String n, int t) {
        this.c = c;
        this.name = n;
        this.n_tickets = t;
    }
    public void run() {
        c.bookTicket(n_tickets, name);
    }
}

public class ThreadTest {
    public static void main(String[] args) {
        ConcertVenue obj = new ConcertVenue();
        TicketBooking tb1 = new TicketBooking(obj, "Aman", 1);
        TicketBooking tb2 = new TicketBooking(obj, "Leela", 1);
        Thread t1 = new Thread(tb1);
        Thread t2 = new Thread(tb2);
        t1.start();
        t2.start();
    }
}
```

Which of the following options is/are possible result/s of the above code?

Options :

Leela booked 1 ticket

6406532731201. ✓ Aman cannot book 1 ticket

Leela booked 1 ticket

6406532731202. ✖ Aman booked 1 ticket

Aman booked 1 ticket
6406532731203. ✓ Leela cannot book 1 ticket

Aman cannot book 1 ticket
6406532731204. ✗ Leela cannot book 1 ticket

Question Number : 230 Question Id : 640653815178 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 5 Max. Selectable Options : 0
Question Label : Multiple Select Question

Consider the Java program given below.

```
import javax.swing.*;
import java.awt.event.*;
public class ButtonEvents extends JFrame implements ActionListener {
    private JButton btn1, btn2;
    private JLabel label;
    private JPanel panel;
    public ButtonEvents() {
        btn1 = new JButton("Button 1");
        btn2 = new JButton("Button 2");
        panel = new JPanel();
        panel.add(btn1);
        panel.add(btn2);
        add(panel, "North");
        label = new JLabel("No button clicked yet.");
        add(label, "South");
        btn1.setActionCommand("btn1");
        btn2.setActionCommand("btn2");
        btn1.addActionListener(this);
        btn2.addActionListener(this);
        setSize(300, 200);
        setVisible(true);
    }
    public void actionPerformed(ActionEvent e) {
        //CODE SEGMENT
    }
    public static void main(String[] args) {
        new ButtonEvents();
    }
}
```



Choose the correct code segment(s) to be filled inside method `actionPerformed()` such that on clicking the Button 1, the label text changes to Button 1 clicked and on clicking the Button 2, the label text changes to Button 2 clicked.

Options :

```
if (e.getActionCommand().equals("btn1"))
    label.setText("Button 1 clicked");
else if (e.getActionCommand().equals("btn2"))
    label.setText("Button 2 clicked");
```

6406532731213. ✓

6406532731214. ✓

```
if (e.getSource().equals(btn1))
    label.setText("Button 1 clicked");
else if (e.getSource().equals(btn2))
    label.setText("Button 2 clicked");
```

```
        if (e.getActionCommand().equals("Button 1"))
            label.setText("Button 1 clicked");
        else if (e.getActionCommand().equals("Button 2"))
            label.setText("Button 2 clicked");
```

6406532731215. ✖

```
        if (e.getSource().equals("btn1"))
            label.setText("Button 1 clicked");
        else if (e.getSource().equals("btn2"))
            label.setText("Button 2 clicked");
```

6406532731216. ✖

Sub-Section Number :	5
Sub-Section Id :	640653118704
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 231 Question Id : 640653815176 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Multiple Choice Question

Consider the Java code given below.

```
import java.util.*;
import java.util.concurrent.*;
class Example extends Thread {
    Map cuMap;
    Example(Map m) {
        this.cuMap = m;
    }
    public void run() {
        cuMap.put("D","Dog");
    }
}
public class Test {
    public static void main (String[] args) {
        Map<String, String> cuMap = new ConcurrentHashMap();
        String[] str = {"A", "B", "C"};
        String[] arr = {"Apple", "Bat", "Cat"};
        for(int i = 0; i < str.length; i++) {
            cuMap.put(str[i],arr[i]);
        }
        Example t = new Example(cuMap);
        t.start();
        Set s = cuMap.entrySet();
        Iterator itr = s.iterator();
        while(itr.hasNext()) {
            Map.Entry m = (Map.Entry)itr.next();
            System.out.println(m.getKey() + " => " + m.getValue());
        }
    }
}
```

Which of the following is NOT true about the given code.

Options :

6406532731205. ✓ This program may generate ConcurrentModificationException.

The program may generate the output:

A => Apple

B => Bat

C => Cat

6406532731206. ✗ D => Dog

6406532731207. ✗

The program may generate the output:

D => Dog
A => Apple
B => Bat
C => Cat

The program may generate the output:

A => Apple
B => Bat
C => Cat

6406532731208. ✖

Question Number : 232 Question Id : 640653815177 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Multiple Choice Question

The Java code given below produces a toggle button. With the first click, the color of panel pnlColor should become red, with the next click it should become blue, and on the next click, it should turn to red again, and so on. Based on the requirement, answer the question that follows the code.

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
public class FClass extends JFrame implements ActionListener{
    JButton btnToggle;
    JPanel pnlColor, pnlBtn;
    public FClass1(){
        setSize(200, 200);
        btnToggle = new JButton("Toggle");
        btnToggle.addActionListener(this);
        btnToggle.setActionCommand("red");
        pnlColor = new JPanel();
        pnlBtn = new JPanel();
        pnlBtn.add(btnToggle);
        add(pnlBtn, "South");
        add(pnlColor, "Center");
        setVisible(true);
    }
    public void actionPerformed(ActionEvent e) {
        //CODE BLOCK
    }
    public static void main(String[] args){
        new FClass();
    }
}
```

Choose the correct code segment inside method actionPerformed() such that the given behaviour can be implemented correctly.

Options :

```
if(e.getActionCommand().equals("red")){
    btnToggle.setActionCommand("blue");
    pnlColor.setBackground(Color.red);
}
else if(e.getActionCommand().equals("blue")){
    btnToggle.setActionCommand("red");
    pnlColor.setBackground(Color.blue);
}
```

6406532731209. ✓ }

6406532731210. ✖

```

if (btnToggle.isSelected())
    pnlColor.setBackground(Color.red);
else
    pnlColor.setBackground(Color.blue);

    if(e.getActionCommand().equals("red"))
        btnToggle.setActionCommand("blue");
    else if(e.getActionCommand().equals("blue"))
        btnToggle.setActionCommand("red");

    if(e.getSource().equals("red")){
        btnToggle.setActionCommand("blue");
        pnlColor.setBackground(Color.red);
    }
    else if(e.getSource().equals("blue")){
        btnToggle.setActionCommand("red");
        pnlColor.setBackground(Color.blue);
    }

```

6406532731211. ✖

6406532731212. ✖

MLT

Section Id :	64065356661
Section Number :	11
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	17
Number of Questions to be attempted :	17
Section Marks :	50
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes