

Possible Answers :

0.319 to 0.328

Sub-Section Number :

11

Sub-Section Id :

640653134066

Question Shuffling Allowed :

Yes

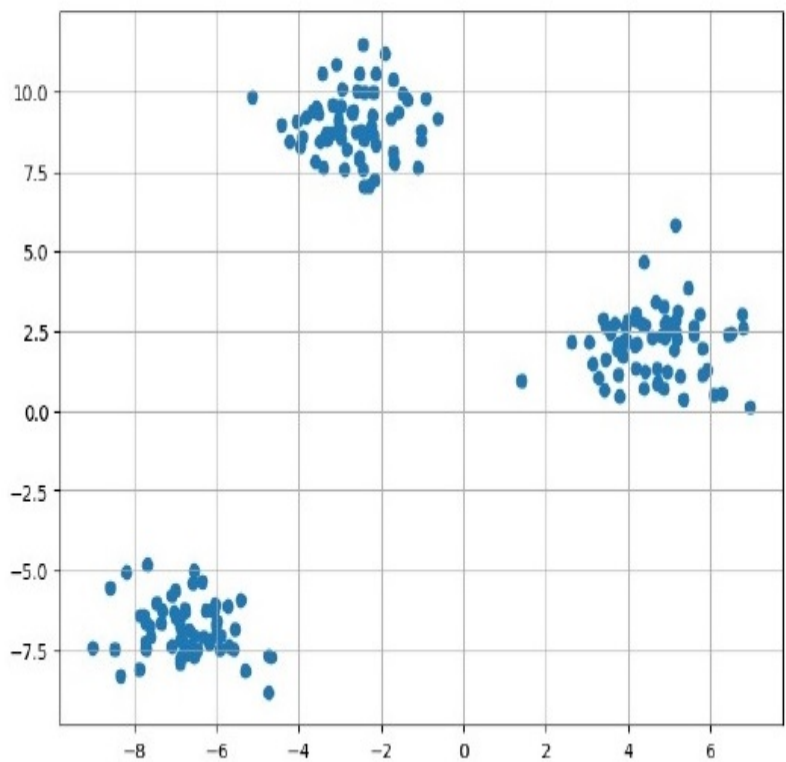
Question Number : 394 Question Id : 640653903967 Question Type : SA Calculator : None

Correct Marks : 4

Question Label : Short Answer Question

The plot below displays a distribution of 180 samples with 2 features in Euclidean space.

If we apply the KMeans clustering algorithm to group these data points, what is the value of `n_clusters` for which the inertia (sum of squared errors) will be exactly zero? If you conclude,



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

180

System commands

Section Id :	64065364127
Section Number :	14
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	17
Number of Questions to be attempted :	17
Section Marks :	120
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	No
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653134067
Question Shuffling Allowed :	No

**Question Number : 395 Question Id : 640653903971 Question Type : MCQ Calculator : Yes
Correct Marks : 0**

Question Label : Multiple Choice Question

**THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : SYSTEM COMMANDS
(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 :

6406533043986. ✓ YES

6406533043987. ✗ NO

**Question Number : 396 Question Id : 640653903972 Question Type : MCQ Calculator : Yes
Correct Marks : 0**

Question Label : Multiple Choice Question

Attempt any 13 of the 15 questions each question is of 8 marks.

The total marks are capped at 100.

Options :

6406533043988. ✓ Instructions has been mentioned above.

6406533043989. ✗ This Instructions is just for a reference & not for an evaluation.

Sub-Section Number :

2

Sub-Section Id :

640653134068

Question Shuffling Allowed :

Yes

Question Number : 397 Question Id : 640653903973 Question Type : MCQ Calculator : Yes

Correct Marks : 8

Question Label : Multiple Choice Question

A function called `file_check` which takes a file name as an argument and tests if the file has two fields separated by a colon (":"). The first column should have alphabets while the second column should have a hexadecimal code. If the file is correctly formatted, print the file name followed by PASSED; otherwise, print the file name followed by FAILED. From the Following options choose the one which will achieve that.

Note: The passed file path is valid and the minimum hexadecimal characters on second field is 8

Options :

```
file_check() {  
    filename="$1"  
    var=True  
    while IFS=: read -r field1 field2; do  
        if [[ $field1 =~ [a-zA-Z] ]] && [[ $field2 =~ [0-9a-fA-F]{8} ]]; then  
            continue  
        else  
            var=False  
            break  
        fi  
    done < "$filename"  
  
    if [[ $var == "True" ]]; then  
        echo "$filename PASSED"  
    else  
        echo "$filename FAILED"  
    fi  
}
```

6406533043990. ✓

6406533043991. ✗

```

file_check() {
    filename="$1"
    var=True
    while IFS=: read -r field1 field2; do
        if [[ $field1 =~ [a-zA-Z] ]] && [[ $field2 =~ [0-9a-fA-F]{8} ]]; then
            break
        else
            var=False
            continue
        fi
    done < "$filename"

    if [[ $var == "True" ]]; then
        echo "$filename PASSED"
    else
        echo "$filename FAILED"
    fi
}

```

```

#!/bin/bash

file_check() {
    filename="$1"
    var=False
    while IFS=: read -r field1 field2; do
        if ! [[ $field1 =~ [a-zA-Z] ]] && [[ $field2 =~ [0-9a-fA-F]{8} ]]; then
            var=True
            break
        fi
    done < "$filename"

    if [[ $var == "True" ]]; then
        echo "$filename FAILED"
    else
        echo "$filename PASSED"
    fi
}

```

6406533043992. ✖

6406533043993. ✖

```
#!/bin/bash

# Define the function
file_check() {
    filename="$1"
    var=False
    while IFS=: read -r field1 field2; do
        if ! [[ $field1 =~ [a-zA-Z] ]] && [[ $field2 =~ [0-9a-fA-F]{8} ]]; then
            var=True
            continue
        fi
    done < "$filename"
    if [[ $var == "True" ]]; then
        echo "$filename FAILED"
    else
        echo "$filename PASSED"
    fi
}
```

Question Number : 398 Question Id : 640653903974 Question Type : MCQ Calculator : Yes Correct Marks : 8

Question Label : Multiple Choice Question

Which of the following `awk` commands will display the contents of `data.txt` with each line's length prepended at the start of the line?

Hint:

- `length([s])`
 - Return the length of the string `s`, or the length of `$0` if `s` is not supplied. As a non-standard extension, with an array argument, `length()` returns the number of elements in the array.

Options :

6406533043994. ✖ `awk '{print $0, length}' data.txt`

6406533043995. ✖ `awk '{print $1, length($0)}' data.txt`

6406533043996. ✔ `awk 'END {print length($0), $0}' data.txt`

6406533043997. ✖ `awk '{print $0, length($0)}' data.txt`

Question Number : 399 Question Id : 640653903976 Question Type : MCQ Calculator : Yes

Correct Marks : 8

Question Label : Multiple Choice Question

Consider the following script:

```
#!/bin/bash
numbers=(2 4 6 8 10)
numbers+=("12")
unset 'numbers[1]'
echo "${numbers[@]}"
```

What will be the output of the script?

Options :

6406533044004. ✖ 2 4 6 8 10 12

6406533044005. ✔ 2 6 8 10 12

6406533044006. ✖ 2 4 6 8 12

6406533044007. ✖ 2 6 8 10

Question Number : 400 Question Id : 640653903980 Question Type : MCQ Calculator : Yes

Correct Marks : 8

Question Label : Multiple Choice Question

Consider the following commands executed sequentially in bash terminal:

```
$ ls -l
total 0
-rw-r--r-- 1 user1 user1 0 Aug 13 05:51 itemA
-rw-r--r-- 1 user1 user1 0 Aug 13 05:51 itemB
$ echo "Start of the script" > output.log
$ cat itemC >> output.log
cat: itemC: No such file or directory
$ echo "End of the script" >> output.log
```

What will be the contents of the output.log file at the end of execution?

Options :

Start of the script
End of the script

6406533044019. ✔

```
Start of the script
cat: itemC: No such file or directory
End of the script
```

6406533044020. ✖

```
Start of the script
```

6406533044021. ✖

6406533044022. ✖ The output.log will be empty

Question Number : 401 Question Id : 640653903983 Question Type : MCQ Calculator : Yes Correct Marks : 8

Question Label : Multiple Choice Question

Select the command that kills the process not owned by the user `root` and consumes the maximum CPU time. Assume you have the permission to kill any process.

Hint:

- The 10th column of the output of `ps aux` command (TIME) contains the total CPU time used by the process.
- The `ps aux` command can list all the processes owned by all the users.

```
$ ps aux | head -5 # get the first 5 lines
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.0  0.1  21416 13004 ?        Ss   11:26   0:00 /sbin/init
root         2  0.0  0.0      0      0 ?        S    11:26   0:00 [kthreadd]
root         3  0.0  0.0      0      0 ?        S    11:26   0:00
[pool_workqueue_release]
priya     2336  0.0  0.0  11396  2744 tty1    S+   11:29   0:00 cat
$ ps aux | head -5 | sort -k2,2 -rn # sorted by second column in reverse order
priya     2336  0.0  0.0  11396  2744 tty1    S+   11:29   0:00 cat
root         3  0.0  0.0      0      0 ?        S    11:26   0:00
[pool_workqueue_release]
root         2  0.0  0.0      0      0 ?        S    11:26   0:00 [kthreadd]
root         1  0.0  0.1  21416 13004 ?        Ss   11:26   0:00 /sbin/init
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
```

Options :

6406533044028. ✖

```
kill $(
  ps aux |
  head -1 |
  sort -k10,10 -r |
  grep -v '^root\b' |
  sed 1d |
  awk '{print $2}'
)
```

```
kill $(
  ps aux |
  sed 1d |
  sort -k10,10 -rn |
  grep -v '^root\b' |
  head -1 |
  awk '{print $2}'
)
```

6406533044029. ✓

```
kill $(
  ps aux |
  sed 1d |
  sort -k10,10 -r |
  grep -v '^root\b' |
  head -1 |
  awk '{print $2}'
)
```

6406533044030. ✖

```
kill $(
  ps aux |
  grep -v '^root\b' |
  sort -k10,10 -rn |
  sed 1d |
  awk '{print $2}' |
  head -1
)
```

6406533044031. ✖

Question Label : Multiple Choice Question

Which of the following commands will change the word Alice with Rabbit for the range of lines starting from 5 to 25.

Options :

6406533044032. ✖ `sed '5~25 s/Alice/Rabbit/' file.txt`

6406533044033. ✖ `sed '5-25 s/Alice/Rabbit/' file.txt`

6406533044034. ✔ `sed '5,25 s/Alice/Rabbit/' file.txt`

6406533044035. ✖ `sed '5 s/Alice/Rabbit/; 25 s/Alice/Rabbit/' file.txt`

Sub-Section Number :

3

Sub-Section Id :

640653134069

Question Shuffling Allowed :

Yes

Question Number : 403 Question Id : 640653903975 Question Type : MSQ Calculator : Yes

Correct Marks : 8 Max. Selectable Options : 0

Question Label : Multiple Select Question

The contents of the current working directory are as follows:

```
$ ls -R
.:
folder1 folder2

./folder1:
itemA itemB itemC itemD

./folder2:
itemC itemD itemE itemF
```

After running the following script, which files will be moved from folder1 to folder2 ?

```
cd folder1
for item in *; do
    if ls ../folder2 | grep -q $item; then
        mv $item ../folder2
    fi
done
```

Options :

6406533043998. ✖ itemA

6406533043999. ✖ itemB

6406533044000. ✔ itemC

6406533044001. ✔ itemD

6406533044002. ✖ itemE

6406533044003. ✖ itemF

Question Number : 404 Question Id : 640653903977 Question Type : MSQ Calculator : Yes

Correct Marks : 8 Max. Selectable Options : 0

Question Label : Multiple Select Question

You have the following text in a file named `input.txt` :

`input.txt` :

```
apple pie
banana bread
cherry tart
apple turnover
banana muffin
cherry pie
```

Which of the following commands will print only the lines containing the word "apple" from the file `input.txt` ? (Select all that apply):

Options :

6406533044008. ✔ `grep 'apple' input.txt`

6406533044009. ✔ `sed -n '/apple/p' input.txt`

6406533044010. ✔ `awk '/apple/ {print $0}' input.txt`

6406533044011. ✖ `awk '{if ($0 ~ /apple/) print $1}' input.txt`

6406533044012. ✖ `sed 's/apple/fruit/' input.txt`

Question Number : 405 Question Id : 640653903978 Question Type : MSQ Calculator : Yes

Correct Marks : 8 Max. Selectable Options : 0

Question Label : Multiple Select Question

Anish wanted to extract phone numbers from the following data. He knows that **grep -oE** can print the pattern selectively using Extended regular expression. Please help him choose the correct regular expression to achieve that.

Sample Input

```
name,phone,email,region
Madan,1-158-662-4996,madan-raja@outlook.ca,GA
Persaud,1-877-704-5869,persaud@google.edu,Meghalaya
Srivasa,1-516-922-8416,k-srivasa@icloud.com,HR
Swami,761-1395,swami@google.couk,Haryana
Subram,981-5610,subram3142@yahoo.org,Karnataka
Nirmal,474-7526,nirmal@icloud.org,Madhya Pradesh
Sahni,151-8534,sahni@hotmail.ca,KA
Mahajan,1-548-689-8736,mahajan@icloud.couk,Bihar
Rana,1-528-385-7783,rana4716@yahoo.org,AN
```

Sample Output

```
1-158-662-4996
1-877-704-5869
1-516-922-8416
761-1395
981-5610
474-7526
151-8534
1-548-689-8736
1-528-385-7783
```

Options :

6406533044013. ✓ `[0-9]{1}\-[0-9]{3}\-[0-9]{3}\-[0-9]{4}|[0-9]{3}\-[0-9]{4}`

6406533044014. ✓ `[0-9]{1}-[0-9]{3}-[0-9]{3}-[0-9]{4}|[0-9]{3}-[0-9]{4}`

6406533044015. ✗ `\b[0-9]-[0-9]{3}-[0-9]{3}-[0-9]{4}\b`

6406533044016. ✓ `\b[0-9].*[0-9]{3}-[0-9]{4}\b|[0-9]{3}-[0-9]{4}\b`

6406533044017. ✗ None of these

Question Number : 406 Question Id : 640653903981 Question Type : MSQ Calculator : Yes

Correct Marks : 8 Max. Selectable Options : 0

Question Label : Multiple Select Question

You need to replicate the following `find` command using a bash script without using the `find` command:

```
find /opt/se2001/ -type f -name "*.md" -mindepth 1 -maxdepth 1
```

Which of the following bash scripts correctly replicates the functionality of the `find` command?

(Select all that apply):

Note:

- `-f` unary operator tests for file
- `-x` unary operator checks for executable
- `-d` unary operator checks for directory

Options :

```
#!/bin/bash

for file in /opt/se2001/*.md; do
    if [[ -f "$file" ]]; then
        echo "$file"
    fi
done
```

6406533044023. ✓

```
#!/bin/bash

for file in $(ls /opt/se2001/*.md); do
    if [[ -f "$file" ]]; then
        echo "$file"
    fi
done
```

6406533044024. ✓

6406533044025. ✗

```
#!/bin/bash
```

```
for dir in /opt/se2001/*; do
    if [[ -d "$dir" && "$dir" == *.md ]]; then
        echo "$dir"
    fi
done
```

```
#!/bin/bash
```

```
for file in /opt/se2001/*; do
    if [[ "$file" == *.md ]]; then
        echo "$file"
    fi
done
```

6406533044026. ✖

Question Number : 407 Question Id : 640653903985 Question Type : MSQ Calculator : Yes

Correct Marks : 8 Max. Selectable Options : 0

Question Label : Multiple Select Question

From the following option select the correct command which will remove all the html tags. A sample html file is provided for your reference.

Sample Input

```
A <b>table</b> is an arrangement of
<a href="/wiki/Information" title="Information">information</a> or
<a href="/wiki/Data" title="Data">data</a>,
```

Sample Output

```
A table is an arrangement of information or data,
```

Options :

6406533044036. ✔ `sed 's/<[^>]*>//g' file.html`

6406533044037. ✖ `sed 's/<[^>].*//g' file.html`

6406533044038. ✔ `awk '{gsub(/<[^>]*>/, ""); print}' file.html`

6406533044039. ✖ `awk '{gsub(/<[^>].*>/, ""); print}' file.html`

Question Number : 408 Question Id : 640653903986 Question Type : MSQ Calculator : Yes Correct Marks : 8 Max. Selectable Options : 0

Question Label : Multiple Select Question

In a school, two different tests were conducted on two separate days. The files `day1.csv` and `day2.csv` contain the data of student IDs and their scores for each day. Select the AWK script that will identify and print the student IDs of those who appeared for the test on both days. The files `day1.csv` and `day2.csv` will be passed as arguments respectively. Refer to the provided sample below.

`day1.csv` :

```
student_id,score
101,85
102,78
103,92
104,88
105,76
106,90
```

`day2.csv` :

```
student_id,score
101,80
103,89
105,91
107,83
108,75
```

Expected Output

```
student_id
101
103
105
```

Which of the following AWK scripts will correctly produce the expected output? (Select all that apply):

Options :

6406533044040. ✓

```
BEGIN {FS=","}
FNR == NR {students[$1]=$1; next}
students[$1] {print students[$1]}
```

6406533044041. ✖

```
BEGIN {FS=","}
FNR != NR {students[$1]=$1; next}
students[$1] {print students[$1]}
```

6406533044042. ✖

```
BEGIN {FS=","}
FNR == NR {students[$1]=$1; next}
students[$1] {print}
```

6406533044043. ✓

```
BEGIN {FS=","}
FNR == NR {students[$1]++; next}
students[$1] {print $1}
```

Question Number : 409 Question Id : 640653903987 Question Type : MSQ Calculator : Yes

Correct Marks : 8 Max. Selectable Options : 0

Question Label : Multiple Select Question

Which of the following commands can be used to extract only the package name and its architecture from the log file, as shown in the desired output? (Select all that apply)

Sample Log file

```
2023-12-09 status installed nginx-core:amd64 1.18.0-6ubuntu14.4
2023-12-09 configure libnginx-mod-http-lua:amd64 1.18.0-6ubuntu14.4 <none>
```

```
2023-12-09 status unpacked libnginx-mod-http-lua:amd64 1.18.0-6ubuntu14.4
2023-12-09 status half-configured libnginx-mod-http-lua:amd64 1.18.0-6ubuntu14.4
```

Desired output

```
nginx-core:amd64
libnginx-mod-http-lua:amd64
libnginx-mod-http-lua:amd64
libnginx-mod-http-lua:amd64
```

Options :

6406533044044. ✓ `grep -oE '[:alnum:]-]+[:alnum:]+' log.txt`

6406533044045. ✗ `grep -oE '[:alnum:]]+[:alnum:]]+' log.txt`

6406533044046. ✗ `grep -o '[a-zA-Z0-9]*:[a-zA-Z0-9]*' log.txt`

6406533044047. ✓ `grep -o '[a-zA-Z0-9-]*:[a-zA-Z0-9]*' log.txt`

Sub-Section Number :

4

Sub-Section Id :

640653134070

Question Shuffling Allowed :

Yes

Question Number : 410 Question Id : 640653903979 Question Type : SA Calculator : None

Correct Marks : 8

Question Label : Short Answer Question

Consider the following bash script:

```
#!/usr/bin/bash

(sleep 5; echo "Task 1 done") &
(sleep 10; echo "Task 2 done") &
(sleep 3; echo "Task 3 done") &
wait #the commands waits till all the background process are complete
echo "All tasks completed"
```

How many seconds will it take before the string "All tasks completed" is printed?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 411 Question Id : 640653903982 Question Type : SA Calculator : None

Correct Marks : 8

Question Label : Short Answer Question

Consider the following command:

```
find /home/user/docs -type f -name "*.txt" -mtime -5 | wc -l
```

Given the following output from `ls -l` in the `/home/user/docs` directory:

```
$ date
Fri Aug 16 10:00:00 IST 2024
$ ls -l
-rw-r--r-- 1 user group 512 Aug 11 08:30 report.txt
-rw-r--r-- 1 user group 1024 Aug 12 10:00 summary.txt
-rw-r--r-- 1 user group 2048 Aug 13 11:15 notes.txt
-rw-r--r-- 1 user group 4096 Aug 14 14:45 plan.txt
-rw-r--r-- 1 user group 2048 Aug 10 09:50 outline.txt
-rw-r--r-- 1 user group 1024 Aug 15 12:20 draft.txt
-rw-r--r-- 1 user group 4096 Aug 16 09:00 final.txt
```

How many `.txt` files will the `find` command count?

Hint:

- `-type c`
File is of type c:

b	block (buffered) special
c	character (unbuffered) special
d	directory
p	named pipe (FIFO)
f	regular file

- `-mtime n`
File's data was last modified `n*24` hours ago. See the comments for `-atime` to understand how rounding affects the interpretation of file modification times.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

5

TDS

Section Id :	64065364128
Section Number :	15
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	41
Number of Questions to be attempted :	41
Section Marks :	40
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	No
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653134071
Question Shuffling Allowed :	No

Question Number : 412 Question Id : 640653903988 Question Type : MCQ Calculator : Yes
Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : TOOLS IN DATA SCIENCE (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 :

6406533044048. ✓ YES

6406533044049. ✗ NO

Sub-Section Number :	2
Sub-Section Id :	640653134072
Question Shuffling Allowed :	Yes

Question Number : 413 Question Id : 640653903989 Question Type : MCQ Calculator : Yes
Correct Marks : 1

Question Label : Multiple Choice Question

What does a correlation coefficient close to +1 indicate?

Options :