CoC & Instructions

CoC

You may submit any number of times before the due date. The final submission will be considered for grading.

You have last submitted on: 2022-03-19, 13:42 IST

1) **Online Remote Proctored Exams** ***1 point***

This exam is being conducted in the online mode which will be taken by the examinee at his/her place of residence and proctored remotely by those assigned by the IIT Madras team. During such an exam, the exam session will be recorded by the proctors and the recordings will be handed over to IIT Madras which will be kept for internal purposes. The following guidelines are to be followed by all examinees.

- No examinee shall share their personal details with the proctors (including but not limited to their phone numbers, address), during or after the exam.
- The table/desk where the examinee takes this exam shall not have any items kept that may have sensitive information including but not limited to their phone numbers and address.
- No examinee shall aid, or attempt to aid another candidate by discussing answers via email, text etc.
- No examinee will disclose any of the details of what happened during the exam or examination trials to anyone outside.
- If an examinee wishes to ask a question during the exam, they should post the query in the exam room chat window and the proctor will clarify the issue.
- If any examinee is found to have violated any of the Code of Conduct for Online Examinations, or in any other way to have acted improperly, whether discovered during the examination or afterwards, they will be liable to disciplinary procedures that incur serious penalties. This can include, but not limited to, withholding of exam results, and suspension and/or termination from the program.

Every examinee is deemed to have read, understood and accepted the Code of Conduct governing the conduct of examinations once they present themselves for examinations.

CoC & Instructions

Q1
Assignment

Q2
Assignment

Instructions of Exam

1) **Instructions - System Commands** ***1 point***

1. Login 30 minutes before the exam and complete your identity verification and room verification process
2. The latest version of seeya has to be downloaded and run. If seeya is not working a local recording has to be taken (Inform the proctor of this)
3. Local Record Upload Form: https://forms.gle/BufSyGySYdL3QMV46
4. There are Eight questions for which you will have to write code/program. The questions are similar to the ones you have seen in Practice and Graded Programming Assignment. **[NOTE: If you do not see 8 questions, please do a hard reload (Ctrl+Shift+R) multiple times till the eight questions are visible]**
5. The exam has to be completed in 90 minutes.
6. Please read **CheatSheet and Instructions** and agree to the same

Please refer the image1 shown below to understand the new portal features (refer to the image legend) that you will be able to use while typing your answers in the editor text box.

Image1: New portal features

I have read and understood the Instructions

Submit Answers

You will be able to resubmit before due date.

Due: 19 Mar 2022 15:30 IST
Time Left: 01:39:09

Given below is a script to delete all the files that ends with the extension `.temp` and starts with either of the strings 1997, 1999, 2005 and 2018. The command used in the script is stored in the variable `files_to_be_removed`, and some part of this command is missing. Complete the missing part so that the below script deletes the files as described in the problem. You can write the missing part of the command in the line following the line `files_to_be_removed= ls | \`, the last character `\` is to split the command in two lines. Give your solution in one line only.

Hint: to check for `.` as a character match use the escape character before it like `\.`

This assignment has public test cases. Please click on "Test Run" button to see the status of public test cases. Assignment will be evaluated only after submitting using "Submit" button below. If you only test run the program, your assignment will not be graded and you will not see your score after the deadline.

Bash

```
1  script() { echo '
2  files_to_be_removed=`ls | \
3
4
5
6  for file in $files_to_be_removed; do
7    echo deleting $file ...
8    rm $file
9  done'
10 }
```

You will be able to resubmit before due date.

Due: 19 Mar 2022 15:30 IST
Time Left: 01:38:50

An empty file is the one that has no contents inside (0 byte of data). Write a bash command to print and remove all empty files (not empty directories) in the current working directory.

Each line in the input correspond to a file where first word is the file name and rest of the line are the contents of the file.

Hint: Use find command to write solution in one line.

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Bash

```
1 script() { echo '
2
3 '
4 }
```

You will be able to resubmit before due date.

Due: 19 Mar 2022 15:30 IST
Time Left: 01:38:38

The current directory contains multiple files(no directories) with different extensions like `.txt`, `.py`, `.m`, etc.,. Write a bash script to organize the files into folders according to their file extensions. The directory names should be same as the file extensions(case sensitive). Example: `file.C` will be moved to the directory named `C`. Do not print anything from your script.

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Bash

```
1 script() { echo '
2
3 '
4 }
```

Test Run Submit

You will be able to resubmit before due date.

Due: 19 Mar 2022 15:30 IST
Time Left: 01:38:22

Define a bash function named `perms` which takes in the name of the file as first argument and prints `r` if the user has read permissions on the file, prints w if user has write permission on the file, if read or write permission are not there for user print `NO` in capitals. Print every letter on a new line.

Consider the below files

```
-rw-rw-rw- 1 user1 user1   0 Mar 18 03:55 file1
-r-xrw-rw- 1 user1 user1   0 Mar 18 04:55 file2
--w-rw-r-- 1 user1 user1   0 Mar 18 05:55 file3
---xr-xr-- 1 user1 user1   0 Mar 18 06:55 file4
```

And below table lists the output for given argument

Argument to function	Output
file1	r w
file2	r
file3	w

-r-xrw-rw- 1 user1 user1 0 Mar 18 04:55 file2

--w-rw-r-- 1 user1 user1 0 Mar 18 05:55 file3

---xr-xr-- 1 user1 user1 0 Mar 18 06:55 file4

And below table lists the output for given argument

Argument to function	Output
file1	r w
file2	r
file3	w
file4	NO

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Bash

```
1 script() { echo '
2
3 '
4 }
```

You will be able to resubmit before due date.

Due: 19 Mar 2022 15:30 IST
Time Left: 01:37:59

The file `lsoutput` contains the output of the command `ls -l` of some folder.

Sample output of `ls -l` command

```
total 78940
-rw-rw-r-- 1 user user       0 Jan 16 11:25 0
drwxrwxr-x 2 user user    4096 Feb 24 13:17 5230
-rw-rw-r-- 1 user user       0 Feb 16 12:14 a4
-rw-rw-r-- 1 user user 80386681 Feb 14 15:21 access-full.log
-rwxrwxr-x 1 user user   16456 Mar  2 02:07 fact
-rwxrwxr-x 1 user user   16889 Mar  4 02:07 fact2
-rw-rw-r-- 1 user user      40 Dec 22 13:24 join.sed
-rw-rw-r-- 1 user user      17 Nov 16 13:08 list_1
-rw-rw-r-- 1 user user     520 Feb  4 11:13 numbers.txt
-rw-r--r-- 1 user user  119156 Oct 14 15:57 ort
-rw-r--r-- 1 user user  119156 Feb 14 15:33 plit
```

Write an awk script to print the sum of sizes of all files(not directories) which are,

```
-rw-r--r-- 1 user user  119156 Oct 14 15:57 ort
-rw-r--r-- 1 user user  119156 Feb 14 15:33 plit
```

Write an awk script to print the sum of sizes of all files(not directories) which are,

last modified in Jan 1st to Mar 3rd (both inclusive) of this year.

The size of the file should be greater than 1024 bytes.

The file sizes in the input to awk scrips are given as 5^{th} field and is in bytes, in the command output.

Assume that there are no files older than 6 months in the system, and all the files are normal files.

For the above example the output will be sum of files `access-full.log`, `fact` and `plit` that is `80522293`.

This assignment has public test cases. Please click on "Test Run" button to see the status of public test cases. Assignment will be evaluated only after submitting using "Submit" button below. If you only test run the program, your assignment will not be graded and you will not see your score after the deadline.

Bash

```
1 script() { echo '
2
3 '
4 }
```

You will be able to resubmit before due date.

Due: 19 Mar 2022 15:30 IST
Time Left: 01:35:57

Write an awk script to find unintentionally repeated (duplicate) words in the input file, only consecutive repeatitions should be considered. For example, sometimes a file can contain sentences like `The the building is beautiful`. Print the repeated words in the sequence they appear starting from first line to last line. If there are more than one repeated words in a line print in the same sequence they appear in the line from left to right.

Match the repeatition as case insensitive.

Print all the words in lower case. (Hint: Can use the function `tolower(str)` that returns lower case of string "str")

Assume that the words will not be repeated more than once consequetively.

The punctuations if not separated by a space with a word is considered part of the word. Like in the last line of below example the word ear is not considered as repetition.

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Bash

```
1 script() { awk '
2
3 ' myfile.txt
4 }
```

You will be able to resubmit before due date.

Due: 19 Mar 2022 15:30 IST
Time Left: 01:35:42

A shopkeeper maintains several bills as files and inserts some comments or line separators between every few lines, these line separaters start and end with the character #. He some times forget to add these separators hence want to add them to those files where he missed. Write a sed script that prints the input file after adding a line containing 5 hashes that is #####(without any space) after every 5th line of the input file.

This assignment has public test cases. Please click on "Test Run" button to see the status of public test cases. Assignment will be evaluated only after submitting using "Submit" button below. If you only test run the program, your assignment will not be graded and you will not see your score after the deadline.

Bash

```
1  echo '
2
3  ' >myScript.sed
4
5  while IFS= read -r LINE || [[ -n "$LINE" ]]; do
6      echo "$LINE"
7  done >myfile.txt
8
9
10 sed -f myScript.sed myfile.txt
```

Test Run Submit

Due: 19 Mar 2022 15:30 IST
Time Left: 01:34:00

A CSV (Comma Separated Values) file is a file where every field is bounded by double quotes. Here is an example,

```
"field1","field2","field3"
"alpha,beta","1453.23","-123.2"
"mu,phi,nu","11342.23","-12.2"
```

Write a sed script that converts quoted fields in the input CSV file to TSV (Tab Separated Values) and print to stdout. The standard output should not have quoted fields.

Check the Sample test cases below for sample input and output.

Note: Assume that there is no tab character or double quotes present in the fields and no preceding or trailing spaces in the file.

This assignment has public test cases. Please click on "Test Run" button to see the status of public test cases. Assignment will be evaluated only after submitting using "Submit" button below. If you only test run the program, your assignment will not be graded and you will not see your score after the deadline.

Bash

```
1 script() { echo '
2
3 ' >myScript.sed
4 }
```