#TASK 1

Take a string from the user check whether it contains at least:

1 upper-case, 1 lower-case, 2 digits and 1 of the special characters: @,#,%,*,&,!

If it does not contain any of the criteria, print which is missing.

If it satisfies all the condition, print valid password.

Sample Input #1:

Sifat Daddy Tanvir

Output:

Digit missing

Special character missing

Sample Input #2:

VirginBoi21$$

Output:

Valid password

#TASK 2

Take a string from the user print how many vowels and consonants it contains.

Sample Input:

Stalker69Achira

Output:

Vowels: 5

Consonants: 8

#TASK 3

Imagine you are writing a python program that determines whether a student can graduate or not depending on a few conditions.

Your program will take 3 inputs: student id, department and credits completed.

To graduate, a "CSE" student must complete 136 or more credits, and a "CS" student must complete 120 or more credits.

The student id of the student must be of 8 digits and the first two digits of the student id must be within 15 to 19 inclusive. If not, print "Invalid Student Id".

For any other input for a department other than "CSE" or "CS" print "Invalid Department".

If student id and department are valid, check whether the student can be allowed to graduate or not, and print accordingly (check sample input-outputs).

Sample Input #1

17101454

CSE

136

Output:

ID 17101454 from CSE department allowed to graduate

Explanation:

The Student ID is valid because of having 8 digits and the first two digits are between 15 and 19 (inclusive).

The department is also valid as it is one of the two: CSE or CS. The student has been allowed as CSE students are allowed to graduate after completing 136 or more credits.

Sample Input #2

1810145

CS

124

Output:

Invalid Student ID

Explanation:

The Student ID is invalid as it is not 8 digit long.

Sample Input #3

20101454

MNS

124

Output:

Invalid Student ID

Invalid Department

Explanation:

The Student ID is invalid as the first two digits are not between 15 and 19 (inclusive). The department is also invalid as it is not one of the two: CSE or CS.

Sample Input #4

17101458

CSE

130

Output:

Not allowed to graduate

Explanation:

Both Student ID and department are valid, but 136 credits are not completed.

Sample Input #5

17101458

CS

133

Output:

ID 17101458 from CS department allowed to graduate

Explanation:

Both Student ID and department are valid. Since, the department is CS, and more than or equal to 120 credits are completed, the student has been allowed to graduate.

#TASK 4

Take a string from the user and print whether if it is a palindrome or not.

Sample Input #1

MURDERREDRUM

Output:

Palindrome

Sample Input #2

RACECAR

Output:

Palindrome

Sample Input #3

TAMANNA

Output:

Not Palindrome

#TASK 5

Take a string from the user and add the ascii values of all the upper-case letters and lowercase letters seperately.

If the ascii summation of the upper-cases is grater, print all the upper case letters, and if not, rint all the lower case letters.

Sample Input #1

aBzIrRoTHCOuNTRppOL

Output:

BIRTHCONTROL

Sample Input #2

Mohammadpur ER SetKHOR

Output:

ohammadpuret

#TASK 6

Trace the following code, show tracing table and write the outputs:

```
ajwad=0
nayef=0
bushra=15
tasnia = '21<-69'
while ajwad < 5:
    bushra -= 1
    nayef = bushra
    while nayef > 10:
        if nayef % 2 == 0:
            tasnia += '->'
            tasnia = tasnia + str(ajwad) + str(nayef // 2)
        else:
            tasnia += '<-'
            tasnia = tasnia + str(ajwad // 2) + str(nayef)
        print(tasnia)
        nayef-=1
    ajwad+=1
```

#TASK 7

Trace the following code, show tracing table and write the outputs:

```
farin= "Farin"
samin= "Samin"
prottoy= "Prottoy"
```

```
samia= "Samia"
ghotok= 2

for i in range(0, len(farin)-2, 1):
  for j in range(1, len(samin[1:-1])):
    if (i%2==0 and j%2==0 and ghotok%3!=0):
      print(farin,end="<3")
    elif (i%2!=0 and j%2==0):
      print(prottoy,end="<3")
    elif (i%2==0 and j%2!=0):
      print(samin,end="<3")
    else:
      print(samia,end="<3")
    ghotok+=2
  print()
print(prottoy+"<3"+"Farin")
```

#TASK 8

Trace the following code, show tracing table and write the outputs:

```
ruseilee= 21.69
print(int(ruseilee))
print(ruseilee//10)
ruseilee*=-1
print(int(ruseilee))
print(ruseilee//10)
ruseilee*=-1
ruseilee-=0.69
```

```
print(ruseilee==21)
ruseilee=str(ruseilee)
print(ruseilee==21)
for mujahidul in ruseilee:
  print(mujahidul)
for tamanna in range(0,len(ruseilee),1):
  print(tamanna)
print(ruseilee [0: len(ruseilee):1]== str(21.0))
```