Rajalakshmi Engineering College

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NeoColab_REC_CS23221_Python Programming

REC_Python_Week 2_MCQ

Attempt : 1
Total Mark : 15
Marks Obtained : 8

Section 1 : MCQ

1. What will be the output of the following code snippet?

```
i = 0
while i < 5:
    if i % 2 == 0:
        i += 1
        continue
    print(i, end=" ")
    i += 1
```

Answer

1 3 5

Status : Wrong ***Marks : 0/1***

2. What will be the output of the following Python code?

```
i = 0
while i < 5:
    print(i)
    i += 1
    if i == 3:
        break
else:
    print(0)
```

Answer

012

Status : Correct ***Marks : 1/1***

3. What will the following code output?

```
x = 0
while x < 5:
    if x == 3:
        break
    x += 1
else:
    print("Completed")
print(x)
```

Answer

3

Status : Correct ***Marks : 1/1***

4. What will be the output of the following Python code?

```
i = 1
while False:
    if i%2 == 0:
        break
    print(i)
```

```
    i += 2
```

Answer

The code runs successfully but does not print anything

Status : Correct ***Marks : 1/1***

5. What will be the output for the following code snippet?

```
i = 0
for i in range(10):
    break
print(i)
```

Answer

0

Status : Correct ***Marks : 1/1***

6. What is the output of the following?

```
for i in range(10):
    if i == 5:
        break
    else:
        print(i, end=' ')
else:
    print("Here")
```

Answer

0 1 2 3 4

Status : Correct ***Marks : 1/1***

7. Which keyword used in loops can skip the remaining statements for a particular iteration and start the next iteration?

Answer

continue

Status : Correct **Marks : 1/1**

8. What will be the output of the following code snippet?

```
balloon_inflated = False
while not balloon_inflated:
    if not balloon_inflated:
        balloon_inflated = True
        print("inflate-", end="")
print("done")
```

Answer

inflate-done

Status : Correct **Marks : 1/1**

9. What is the output of the following code?

```
i = 5
while True:
    if i%0O9 == 0:
        break
    print(i)
    i += 1
```

Answer

Status : Skipped **Marks : 0/1**

10. What will be the output of the following Python code?

```
i = 1
while True:
    if i%3 == 0:
        break
    print(i)
    i + = 1
```

Answer

1 2

Status : Wrong ***Marks : 0/1***

11. What is the output of the following?

```
True = False
while True:
  print(True)
  break
```

Answer

True

Status : Wrong ***Marks : 0/1***

12. What is the output of the following?

```
i=0
while(1):
  i++
  print i
  if(i==4):
    break
```

Answer

1 2 3 4

Status : Wrong ***Marks : 0/1***

13. What is the output of the following?

```
i = 2
while True:
  if i%3 == 0:
    break
  print(i)
```

```
  i += 2
```

Answer

2 4

Status : Correct ***Marks : 1/1***

14. What will be the output of the following Python code?

```
i = 5
while True:
    if i%0O11 == 0:
        break
    print(i, end = " ")
    i += 1
```

Answer

5 6 7 8 9 10

Status : Wrong ***Marks : 0/1***

15. How many times will the inner for loop be executed in the below code?

```
i=0
while(True):
  for j in range(4,0,-2):
    print(i*j)
    print('')
    i=i+1
  if(i%2==0):
    break
```

Answer

Status : Skipped ***Marks : 0/1***

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NeoColab_REC_CS23221_Python Programming

REC_Python_Week 2_COD_Updated

Attempt : 1
Total Mark : 50
Marks Obtained : 50

Section 1 : Coding

1. Problem Statement

You work as an instructor at a math enrichment program, and your goal is to develop a program that showcases the concept of using control statements to manipulate loops. Your task is to create a program that takes an integer 'n' as input and prints the squares of even numbers from 1 to 'n', while skipping odd numbers.

Input Format

The input consists of a single integer, which represents the upper limit of the range.

Output Format

The output displays the square of even numbers from 1 to 'n' separated by lines.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: 10

Output: 4
16
36
64
100

Answer

```
n=int(input())
for i in range(2,n+1,2):
    print(i**2)
```

Status : Correct ***Marks : 10/10***

2. Problem Statement

Ethan, a curious mathematician, is fascinated by perfect numbers. A perfect number is a number that equals the sum of its proper divisors (excluding itself). Ethan wants to identify all perfect numbers within a given range.

Help him write a program to list these numbers.

Input Format

The first line of input consists of an integer start, representing the starting number of the range.

The second line consists of an integer end, representing the ending number of the range.

Output Format

The output prints all perfect numbers in the range, separated by a space.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 1
100

Output: 6 28

Answer

```
start=int(input())
end=int(input())
perfect_num=[]
for num in range(start,end+1):
    if num>1:
        sumofdivisors=0
        for i in range(1,num):
            if num%i==0:
                sumofdivisors+=i
        if sumofdivisors==num:
            perfect_num.append(num)
print(" ".join(map(str,perfect_num)))
```

Status : Correct ***Marks : 10/10***

3. Problem Statement

John, a software developer, is analyzing a sequence of numbers within a given range to calculate their digit sum. However, to simplify his task, he excludes all numbers that are palindromes (numbers that read the same backward as forward).

Help John find the total sum of the digits of non-palindromic numbers in the range [start, end] (both inclusive).

Example:

Input:

10

20

Output:

55

Explanation:

Range [10, 20]: Non-palindromic numbers are 10, 12, 13, 14, 15, 16, 17, 18, 19 and 20.

Digit sums: 1+0 + 1+2 + 1+3 + 1+4 + 1+5 + 1+6 + 1+7 + 1+8 + 1+9 + 2+0 = 55.

Output: 55

Input Format

The first line of input consists of an integer, representing the starting number of the range.

The second line of input consists of an integer, representing the ending number of the range.

Output Format

The output prints a single integer, representing the total sum of the digits of all non-palindromic numbers in the range.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 10
20

Output: 55

Answer

```
start=int(input())
end=int(input())
total=0
for num in range(start,end+1):
```

```
    if str(num)!= str(num)[::-1]:
        total+=sum(int(d) for d in str(num))
print(total)
```

Status : Correct **Marks : 10/10**

4. Problem Statement

As a junior developer working on a text analysis project, your task is to create a program that displays the consonants in a sentence provided by the user, separated by spaces.

You need to implement a program that takes a sentence as input and prints the consonants while skipping vowels and non-alphabetic characters using only control statements.

Input Format

The input consists of a string representing the sentence.

Output Format

The output displays space-separated consonants present in the sentence.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: Hello World!
Output: H l l W r l d

Answer

```
str=input()
vowels="aeiouAEIOU"
consonants=[char for char in str if char.isalpha() and char not in vowels]
print(" ".join(consonants))
```

Status : Correct **Marks : 10/10**

5. Problem Statement

Emma, a mathematics enthusiast, is exploring a range of numbers and wants to count how many of them are not Fibonacci numbers.

Help Emma determine the count of non-Fibonacci numbers within the given range [start, end] using the continue statement.

Input Format

The first line of input consists of an integer, representing the starting number of the range.

The second line consists of an integer, representing the ending number of the range.

Output Format

The output prints a single integer, representing the count of numbers in the range that are not Fibonacci numbers.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 1
10
Output: 5

Answer

```
start=int(input())
end=int(input())
fibno=[0,1]
while fibno[-1]<=100:
    fibno.append(fibno[-1]+fibno[-2])
count=0
for num in range(start,end+1):
    if num in fibno:
        continue
    count+=1
print(count)
```

Status : Correct *Marks : 10/10*

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NeoColab_REC_CS23221_Python Programming

REC_Python_Week 2_CY

Attempt : 1
Total Mark : 40
Marks Obtained : 30

Section 1 : Coding

1. Problem Statement

Nisha is a mathematics enthusiast, eager to explore the realm of twin prime numbers. The objective is to develop a program that enables the discovery and presentation of twin prime pairs.

The program should take an integer 'n' as input and generate 'n' pairs of twin primes, displaying the pairs with a difference of 2 between them.

Input Format

The input consists of a single integer, n.

Output Format

The output displays the 'n' pairs of twin primes, the pairs with a difference of 2 between them.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: 5

Output: 3 5
5 7
11 13
17 19
29 31

Answer

-

Status : Skipped ***Marks : 0/10***

2. Problem Statement

Students are allowed to work on our computer center machines only after entering the correct secret code. If the code is correct, the message "Logged In" is displayed. They are not allowed to log in to the machine until they enter the correct secret code.

Write a program to allow the student to work only if he/she enters the correct secret code.

Note: Here, secret code means the last three digits should be divisible by the first digit of the number.

Input Format

The input consists of an integer n, which represents the secret code.

Output Format

The output displays either "Logged In" or "Incorrect code" based on the given condition.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: 2345

Output: Incorrect code

Answer

```
# You are using Python
n=int(input())
firstdigit=int(str(n)[0])
if n%firstdigit==0:
    print("Logged In")
else:
    print("Incorrect code")
```

Status : Correct ***Marks : 10/10***

3. Problem Statement

John is tasked with configuring the lighting for a high-profile event, where different lighting modes affect the ambiance of the venue. He can choose from three distinct lighting modes, each requiring a specific adjustment to the initial light intensity:

Ambient Lighting (Mode 1): The intensity level is multiplied by 1.5.Stage Lighting (Mode 2): The intensity level is multiplied by 2.0.Spotlight (Mode 3): The intensity level is multiplied by 1.8.

In the event that an invalid mode is provided, the program should output an error message indicating the invalid selection.

Your task is to write a program that reads the selected lighting mode and the initial intensity level, applies the appropriate adjustment, and prints the final intensity.

Input Format

The first line of input is an integer n, representing the lighting mode.

The second line is a floating value m, representing the initial intensity level of the light.

Output Format

The output displays "Intensity: " followed by a float representing the adjusted intensity level, formatted to two decimal places, if the mode is valid.

If the mode is invalid, the output should display "Invalid".

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 1
10.0

Output: Intensity: 15.00

Answer

```
# You are using Python
n=int(input())
m=float(input())
if n==1:
    intensity=m*1.5
    print(f"Intensity:{intensity:.2f}")
elif n==2:
    intensity=m*2.0
    print(f"Intensity:{intensity:.2f}")
elif(n==3):
    intensity=m*1.8
    print(f"Intensity:{intensity:.2f}")
else:
    print("Invalid")
```

Status : Correct ***Marks : 10/10***

4. Problem Statement

Gabriel is working on a wildlife research project where he needs to compute various metrics for different animals based on their characteristics. Each animal type requires a different calculation: a deer's distance traveled, a bear's weight based on footprint size, or a bird's altitude based on its flying pattern.

Conditions:

For Deer (Mode 'D' or 'd'): Distance = speed of sound * time taken, where the speed of sound in air is 343 meters per second.For Bear (Mode 'B' or 'b'): Weight = footprint size * average weight, where the average weight per square inch for a bear is 5.0 pounds.For Bird (Mode 'F' or 'f'): Altitude = flying pattern * distance covered (in meters).

Write a program to help Gabriel analyze the characteristics of animals based on the given inputs.

Input Format

The first line of input consists of a character, representing the type of animal 'D/d' for deer, 'B/b' for bear, and 'F/f' for bird.

If the choice is 'D' or 'd':

The second line of input consists of a floating-point value T, representing the time taken from the deer's location to the observer.

If the choice is 'B' or 'b':

The second line of input consists of a floating-point value S, representing the size of the bear's footprint in square inches.

If the choice is 'F' or 'f':

1. The second line of input consists of a floating-point value P, representing the bird's flying pattern.
2. The third line consists of a floating-point value D, representing the distance covered by the bird in meters.

Output Format

The output prints one of the following:

If the choice is 'D' or 'd':

The output prints "Distance: X m" where X is a floating point value rounded off to two decimal places, representing the calculated distance traveled by the sound wave in meters.

If the choice is 'B' or 'b':

The output prints "Weight: Y lb" where Y is a floating point value rounded off to two decimal places, representing the estimated weight of the bear in pounds.

If the choice is 'F' or 'f':

The output prints "Altitude: Z m" where Z is a floating point value rounded off to two decimal places, representing the calculated altitude of the bird's flight in meters.

If the given choice is invalid, print "Invalid".

Refer to the sample output for formatting specifications.

Sample Test Case

Input: d
2.5
Output: Distance: 857.50 m

Answer

```
animaltype=input().strip()
if animaltype in['D','d']:
    T=float(input().strip())
    distance=T*343
    print("Distance:",format(distance,".2f"),"m")
elif animaltype in['B','b']:
    S=float(input().strip())
    weight=S*5
    print("Weight:",format(weight,".2f"),"lb")
elif animaltype in['F','f']:
    P=float(input().strip())
    D=float(input().strip())
```

```
    altitude=P*D
    print("Altitude:",format(altitude,".2f"),"m")
else:
    print("Invalid")
```

Status : Correct **Marks : 10/10**