Ex. No. : 2.5 Date:

Compound Interest

Pretend that you have just opened a new savings account that earns 4 percent interest per year. The interest that you earn is paid at the end of the year, and is added to the balance of the savings account. Write a program that begins by reading the amount of money deposited into the account from the user. Then your program should compute and display the amount in the savings account after 1, 2, and 3 years. Display each amount so that it is rounded to 2 decimal places.

Program:

```
a=int(input())
b=a*(1+0.04)
c=b*(1+0.04)
d=c*(1+0.04)
print("Balance as of end of Year 1: $%.2f."%b)
print("Balance as of end of Year 2: $%.2f."%c)
print("Balance as of end of Year 3: $%.2f."%d)
```

Input Format:

Input consists of two integers that correspond to the age and weight of a person respectively.

Output Format:

Display True(IF ELIGIBLE)

Display False (if not eligible)

Sample Input

19

45

Sample Output

True

Ex. No. : 2.6 **Date:**

Register No.: 230701358 **Name: TARUN C**

Eligible to donate blood

A team from the Rotract club had planned to conduct a rally to create awareness among the Coimbatore people to donate blood. They conducted the rally successfully. Many of the Coimbatore people realized it and came forward to donate their blood to nearby blood banks. The eligibility criteria for donating blood are people should be above or equal to 18 and his/ her weight should be above 40. There was a huge crowd and staff in the blood bank found it difficult to manage the crowd. So they decided to keep a system and ask the people to enter their age and weight in the system. If a person is eligible he/she will be allowed inside.

Write a program and feed it to the system to find whether a person is eligible or not.

Program:

```
a=eval(input())
b=eval(input())
if(a>=18) and (b>40):
    print("True")
else:
    print("False")
```

Input Format:

An integer x, 0<=x<=1. .

Output Format:

output a single character "C" or "D"depending on the value of x.

Input 1:
0
Output 1:

C

Input 2:
1

Output 1:
D

Ex. No. : 2.7 **Date:**

Register No.: 230701358 **Name: TARUN C**

C or D

Mr.Ram has been given a problem kindly help him to solve it. The input of the program is either 0 or 1. IF 0 is the input he should display "C" if 1 is the input it should display "D".There is a constraint that Mr. Ram should use either logical operators or arithmetic operators to solve the problem, not anything else.

Hint:

Use ASCII values of C and D.

Program:

```
n=eval(input())
if(n==0):{
    print(chr(67))
}
elif(n==1):{
    print(chr(68))
}
```

Input format:

Line 1 has the total number of weapons

Line 2 has the total number of Soldiers.

Output Format:

If the battle can be won print True otherwise print False.

Sample Input:

32

43

Sample Output:'

False

Ex. No. : 2.8 Date:

Troy Battle

In the 1800s, the battle of Troy was led by Hercules. He was a superstitious person. He believed that his crew can win the battle only if the total count of the weapons in hand is in multiple of 3 and the soldiers are in an even number of count. Given the total number of weapons and the soldier's count, Find whether the battle can be won or not according to Hercules's belief. If the battle can be won print True otherwise print False.

Program:

```
a=eval(input())
b=eval(input())
if (a%3==0) and (b%2==0):
    {
    print("True")
}
else:{
    print("False")
}
```

Sample Input

100

Sample Output

The tax is 5.00 and the tip is 18.00, making the total 123.00

Ex. No. : 2.9 **Date:**

Register No.:230701358 **Name: TARUN C**

Tax and Tip

The program that you create for this exercise will begin by reading the cost of a meal ordered at a restaurant from the user. Then your program will compute the tax and tip for the meal. Use your local tax rate (5 percent) when computing the amount of tax owing. Compute the tip as 18 percent of the meal amount (without the tax). The output from your program should include the tax amount, the tip amount, and the grand total for the meal including both the tax and the tip. Format the output so that all of the values are displayed using two decimal places.

Program:

```
a=int(input())
b=a*(5/100)
c=a*(18/100)
d=a+b+c
print("The tax is %.2f"%b,"and the tip is %.2f,"%c,"making the total %.2f"%d)
```

For example:

Input	Result
123	3

Ex. No. : 2.10 **Date:**

Register No.: 230701358 **Name: TARUN C**

Return last digit of the given number

Write a program that returns the last digit of the given number. Last digit is being referred to the least significant digit i.e. the digit in the ones (units) place in the given number.

The last digit should be returned as a positive number.

For example,

if the given number is 197, the last digit is 7

if the given number is -197, the last digit is 7

Program:

```
a=int(input())

a=abs(a)

print(a%10)
```

03 - Selection Structures in Python

Sample Test Cases

Test Case 1

Input

70

60

80

Output

The candidate is eligible

Test Case 2

Input

50

80

80

Output

The candidate is eligible

Test Case 3

Input

50

60

40

Output

The candidate is not eligible

For example:

Input	Result
50 80 80	The candidate is eligible

Ex. No. : 3.1 **Date:**

Register No.: 230701358 **Name: TARUN C**

Admission Eligibility

Write a program to find the eligibility of admission for a professional course based on the following criteria:

Marks in Maths >= 65

Marks in Physics >= 55

Marks in Chemistry >= 50

Or

Total in all three subjects >= 180

Program:

```
maths=eval(input())
physics=eval(input())
chemistry=eval(input())
total=maths+physics+chemistry
if((maths>=65) and (physics>=55) and (chemistry>=50)):{
    print("The candidate is eligible")
}
elif(total>=180):{
    print("The candidate is eligible")
}
else:{
    print("The candidate is not eligible")
}
```

Sample Input 1

60

60

60

Sample Output 1

That's a equilateral triangle

For example:

Input	Result
40 40 80	That's a isosceles triangle

Ex. No. : 3.2 **Date:**

Register No.: 230701358 **Name: TARUN C**

Classifying Triangles

A triangle can be classified based on the lengths of its sides as equilateral, isosceles or scalene. All three sides of an equilateral triangle have the same length. An

isosceles triangle has two sides that are the same length, and a third side that is a different length. If all of the sides have different lengths then the triangle is scalene.

Write a program that reads the lengths of the three sides of a triangle from the user. Then display a message that states the triangle's type.

Program:

```
a=eval(input())
b=eval(input())
c=eval(input())
if(a==b==c):{
    print("That's a equilateral triangle")
}
elif((a==b) or (a==c) or (b==c)):{
    print("That's a isosceles triangle")
}
else:{
    print("That's a scalene triangle")
}
```