

Lab Exercise 1

1: Write a python program to input two numbers and if their sum is equal to 10 and their multiplication is less than 20, print the text string "incorrect."

```
num1 = int(input("Enter the first number: "))
num2 = int(input("Enter the second number: "))
if (num1*num2 < 20) and (num1+num2 == 10):
    print("incorrect")
else:
    print("correct")
```

Input:

21

34

Output:

correct

2: Write a python program for finding area and circumference of a circle.

```
rad = float(input("Enter the radius: "))
print("The circumference is: ", 2*3.14*rad)
print("The area is: ", 3.14*rad**2)
```

Input:

3

Output:

The circumference is: 18.84

The area is: 28.26

3: Write a python program for calculating simple and compound interest.

```
principle = int(input("Enter the amount: "))
rate = float(input("Enter the rate of interest: "))
time = float(input("Enter the time: "))
tmp = int(input("Enter the no of times to apply interest: "))

print("The SI is: ", principle +(principle*rate*time/100))
```

```
print("The CI is: ", principle*(1+(rate/time)**(time*tmp)))
```

Input:

324

5

8

4

Output:

The SI is: 453.6

The CI is: 324.0000952150424

4: Write a python program to convert temperature from degree centigrade to Fahrenheit.

```
c_tmp = float(input("Enter the tmp in c: "))  
print("The tmp in F is: ", (c_tmp*(9/5))+32)
```

Input:

3.4

Output:

The tmp in F is: 38.12

5: Write a python program to calculate average of three numbers.

```
num1 = int(input("Enter the threee numbers: "))  
num2 = int(input("Enter the second number: "))  
num3 = int(input("Enter the third number: "))  
print("The avg of the three numvers is: ", (num1+num2+num3)/3)
```

Input:

3

2

5

Output:

The avg of the three numvers is: 3.3333333333333335

6: Write a python program to calculate sum of 6 subjects and find percentage obtained.

```
list = []
sum = 0
for i in range(6):
    marks = int(input("Enter the sub marks: "))
    sum += marks
print("The percentage obtained is: ", (sum/600) * 100)
```

Input:

88
98
89
88
98
99

Output:

93.33333333333333

7: Write a python program to print swapping of two numbers without using third variable.

```
num1 = int(input("Enter the first number: "))
num2 = int(input("Enter the second number: "))
num1 = num1+num2
num2 = num1-num2
num1 = num1-num2
print("The numbers after swap are: ", num1, num2)
```

Input:

23
1

Output:

The numbers after swap are: 1 23

8: Write a python program to find gross salary (GS).

[Given: $DA = (10 \times BS)/100$, $TA = (12 \times BS)/100$,
 $GS = BS + TA + DA$]

```
bs = int(input("Enter the BS: "))
da = (10*bs)/100
ta = (12*bs)/100
```

```
print("The GS is: ",bs+da+ta)
```

Input:

23

Output:

The GS is: 28.060000000000002

9: Write a python program to find greatest in 3 numbers.

```
num1 = int(input("Enter the num: "))
num2 = int(input("Enter the num: "))
num3 = int(input("Enter the num: "))
if num1 > num2 and num1 > num3:
    print(num1, "is the greatest")
elif num2 > num3 and num2 > num1:
    print(num2, "is the greatest")
elif num3 > num1 and num3 > num2:
    print(num3, "is the greatest")
else:
    print("Invalid input ")
```

Input:

23

1

34

Output:

34 is the greatest

10: Write a python program to find whether a given no. is even or odd.

```
num = int(input("Enter the num: "))
if num%2 == 0:
    print("Number is even")
else:
    print("Number is odd")
```

Input:

324

Output:

Number is even

11: If the marks obtained by a student in five different subjects are input through the keyboard, find out the aggregate marks and percentage marks obtained by the student. Assume that the maximum marks that can be obtained by a student in each subject is 100.

```
arr = []
for i in range(5):
    num = int(input("Enter the sub marks: "))
    if num >= 0 and num <= 100:
        arr.append(num)
    else:
        print("Invalid input")
sum = 0
for i in arr:
    sum += i
print("Aggregate marks is: ", sum)
print("Percentage marks is: ", sum/500*100)
```

Input:

23
54
67
76
56

Output:

Aggregate marks is: 276
Percentage marks is: 55.2

12: The length & breadth of a rectangle and radius of a circle are input through the keyboard. Write an algorithm to calculate the area & perimeter of the rectangle, and the area & of the circle.

```
length = float(input("Enter the length: "))
breath = float(input("Enter the breath: "))
```

```
rad = float(input("Enter the radius of the circle: "))
print("The area and perimeter of rectangle is: ", length*breath, 2*(length*breath))
print("The area and cuncumference for circle is: ", 3.14*rad**2, 2*3.14*rad)
```

Input:

34
2
4

Output:

The area and perimeter of rectangle is: 68.0 136.0
The area and cuncumference for circle is: 50.24 25.12

13: A cashier has currency notes of denominations 10, 50 and 100. If the amount to be withdrawn is input through the keyboard in tens, hundreds or thousands, find the total number of currency notes of each denomination the cashier will have to give to the withdrawer.

```
amount = int(input("Enter the amount: "))
hun = 0
fif = 0
ten = 0
one = 0
while amount != 0:
    if(amount - 100 > -1):
        amount=amount-100
        hun += 1
    elif(amount-50 > -1):
        amount -= 50
        fif += 1
    elif(amount-10 > -1 ):
        amount -= 10
        ten += 1
    else:
        one = amount
        amount = 0
print("No of Hundred, Fifty, Tens notes needed are: ", hun,fif,ten)
```

Input:

324

Output:

No of Hundred, Fifty, Tens notes needed are: 3 0 2

14: If the total selling price of 15 items and the total profit earned on them is input through the keyboard, write a python program to find the cost price of one item.

```
t_profit = int(input("Enter the total profit: "))
t_price = int(input("Enter the total selling price: "))
print("Cost price of one item is: ", t_price - t_profit)
```

Input:

23

120

Output:

Cost price of one item is: 97

15: If a five-digit number is input through the keyboard, write a python program to print a new number by adding one to each of its digits. For example if the number that is input is 12391 then the output should be displayed as 23402. [If digit is 9 it should be converted into 0].

```
num = int(input("Enter the number: "))
tmp = 1;
for i in range(5):
    num = num + tmp
    tmp *= 10
print("The answer is: ", num)
```

Input:

23

Output:

The answer is: 11134

16. Write a program that asks the user to input 10 integers, and then prints the largest odd number that was entered. If no odd number was entered, it should print a message to that effect.

```
lst = []
for i in range(9):
    num = int(input("Enter the number: "))
    if i%2 == 1:
        lst.append(num)
if len(lst) != 0:
    largest = lst[0]
    for i in lst:
        if i > largest:
            largest = i
    print("Largest: ", largest)
else:
    print("No odd number.")
```

Input:

78 37 2 43 29 87 67 78 788

Output:

Largest: 87

17. Write a program to prints the integer cube root, if it exists, of an integer. If the input is not a perfect cube, it prints a message “the number is not perfect cube” otherwise it prints “the number is perfect cube”.

```
num = int(input("Enter the number: "))
tmp = 0
for i in range((num//4) + 1):
    if i**3 == num:
        print("The number is a perfect cube.")
        tmp = 1
        break
if tmp == 0:
    print("The number is not a perfect cube")
```

Input:

324

Output:

The number is not a perfect cube

18. Write a program to print all even numbers between 1 to 100.

```
for i in range(2,101,2):  
    print(i, end = " ")
```

Output:

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58
60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100

19. Write a program to print all odd number between 1 to 100.

```
for i in range(1,101,2):  
    print(i, end = " ")
```

Output:

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59
61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99

20. Write a program to find HCF (GCD) of two numbers.

```
num1 = int(input("Enter the first number: "))  
num2 = int(input("Entert the second number: "))  
smallest = 0  
if num1 < num2:  
    smallest = num1  
else:  
    smallest = num2  
ans = 0  
for i in range(1,smallest+1):  
    if(num1%i==0) and (num2%i==0):  
        ans = i
```

```
print("The GCD is ", ans)
```

Input:

44

22

Output:

The GCD is 22

21. Write a program to find LCM of two numbers.

```
num1 = int(input("Enter a number: "))
num2 = int(input("Enter a number: "))
largest = 0
tmp = 0
ans = 1
while True:
    if ans%num1==0 and ans%num2==0:
        break
    ans += 1
print("LCM is: ", ans)
```

Input:

23

45

Output:

LCM is: 1035