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MOR Sec - B

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Python Assignment

1. Write program to enter name and display as “Hello, Name”.

In [1]:
```
name = input("Enter your name: ")
print(" Hello, " + name)
```

```
Enter your name: Muskan Agrawal
 Hello, Muskan Agrawal
```

2. Write a menu driven program to enter two numbers and print the arithmetic operations like

a) + b) – c) * d) / e) // f) %.

In [6]:
```
def sum(a,b):
    return(a+b)

def diff(a,b):
    return a-b

def prod(a,b):
    return a*b

def div(a,b):
    return a/b

def floordiv(a,b):
    return a//b

def mod(a,b):
    return a%b

x = int(input("Enter first number: "))
y = int(input("Enter second number: "))
number = 0
while number == 0 :
    z = input(" Choose an operator: \na: +   b: -   c: *   d: /   e: //   f: % \r

    if z == "a":
        print("Sum is: ", sum(x, y))
    elif z == "b":
        print("Difference is: ", diff(x, y))
    elif z == "c":
        print("Product is: ", prod(x, y))
    elif z == "d":
        print("Division is: ", div(x, y))
    elif z == "e":
        print("Floor division is: ", floordiv(x, y))
    elif z == "f":
        print("Modulus is: ", mod(x, y))
    else:
        print("Enter Valid option")
    number = int(input("Enter 0 to continue. Enter Any Other Number to Exit "))
```

```
Enter first number: 2
Enter second number: 3
 Choose an operator:
a: +   b: -   c: *   d: /   e: //   f: %
Your Choice: a
Sum is:  5
Enter 0 to continue. Enter Any Other Number to Exit 0
 Choose an operator:
a: +   b: -   c: *   d: /   e: //   f: %
Your Choice: b
Difference is:  -1
Enter 0 to continue. Enter Any Other Number to Exit 0
 Choose an operator:
a: +   b: -   c: *   d: /   e: //   f: %
Your Choice: c
```

```
Product is:  6
Enter 0 to continue. Enter Any Other Number to Exit 0
 Choose an operator:
a: +   b: -   c: *   d: /   e: //   f: %
Your Choice: d
Division is:  0.6666666666666666
Enter 0 to continue. Enter Any Other Number to Exit 0
 Choose an operator:
a: +   b: -   c: *   d: /   e: //   f: %
Your Choice: e
Floor division is:  0
Enter 0 to continue. Enter Any Other Number to Exit 0
 Choose an operator:
a: +   b: -   c: *   d: /   e: //   f: %
Your Choice: f
Modulus is:  2
Enter 0 to continue. Enter Any Other Number to Exit 4
```

3. To compute the roots of a quadratic equation.

In [7]:
```
import math
new = 0
while new == 0:
    a = int(input("Enter coefficient of x^2: "))
    if a == 0:
        print("coefficient of x^2 cannot be 0")
    else:
        b = int(input("Enter coefficient of x: "))
        c = int(input("Enter coefficient of 1: "))

        d = b ** 2 - (4 * a * c)
        if d < 0:
            re = (- b) / 2 * a
            first_im = (math.sqrt(-d)) / 2 * a
            sec_im = (-math.sqrt(-d)) / 2 * a

            print("First root is :" + str(re) + "+" + str(first_im) + "i and Secc
                sec_im) + "i")

        else:
            first = (- b + math.sqrt(d)) / 2 * a
            sec = (- b - math.sqrt(d)) / 2 * a
            print("First root is:", first, "and second root is", sec)

        new = int(input("Enter 0 to continue. Enter any other Number to Exit: "))
```

```
Enter coefficient of x^2: 1
Enter coefficient of x: 5
Enter coefficient of 1: 6
First root is: -2.0 and second root is -3.0
Enter 0 to continue. Enter any other Number to Exit: 0
Enter coefficient of x^2: 1
Enter coefficient of x: 4
Enter coefficient of 1: 5
First root is :-2.0+1.0i and Second root is-2.0-1.0i
Enter 0 to continue. Enter any other Number to Exit: 8
```

4. Write a menu driven Program to reverse the entered numbers and print the sum of digits entered.

In [10]:
```
def rev(x):
    reverse = str(a) + str(b)
    print("Reverse of the entered number is ",reverse)

def add(x):
    sum = a+b
    print("Sum of the enteres digits of number is",sum)

num = int(input("Enter the number: "))
a = num % 10
b = (num - a) // 10

new = 0
while new == 0:
    op = int(input("Choose the Opton\n1. Reverse the number      2. Print the sum

    if op == 1:
        rev(num)
    elif op == 2:
        add(num)
    else:
        print("Invalid option")
    new = int(input("Enter 0 to continue. Enter any other Number to Exit: "))
```

```
Enter the number: 73
Choose the Opton
1. Reverse the number      2. Print the sum of digits
Your Choice:1
Reverse of the entered number is  37
Enter 0 to continue. Enter any other Number to Exit: 0
Choose the Opton
1. Reverse the number      2. Print the sum of digits
Your Choice:2
Sum of the enteres digits of number is 10
Enter 0 to continue. Enter any other Number to Exit: 5
```

5. Write a menu driven Program to enter the number and print whether the number is

a) odd or even b) prime.

In [20]:
```
def odd_even(x):
    if x%2 == 0:
        print(x, "is an even number")
    else:
        print(x, "is a odd number")

def prime(y):
    if y > 1:
        for i in range(2, y):
           if y % i == 0:
            print(y,"is not a prime number")
            break
           else:
            print(y, "is a prime number")
            break
    else:
        print(num, "is a prime number")

new = 0
while new == 0:
    num = int(input("Enter a number: "))

    op = int(input("Find 1. Odd or Even   2. Prime\n Your Choice:"))
    if op == 1:
        odd_even(num)
    elif op == 2:
        prime(num)
    else:
        print("Invalid option")
    new = int(input("Enter 0 to continue. Enter any other Number to Exit: "))
```

```
Enter a number: 6
Find 1. Odd or Even   2. Prime
 Your Choice:1
6 is an even number
Enter 0 to continue. Enter any other Number to Exit: 0
Enter a number: 9
Find 1. Odd or Even   2. Prime
 Your Choice:2
9 is a prime number
Enter 0 to continue. Enter any other Number to Exit: 8
```

6. Program to find maximum out of entered 3 numbers

In [21]:
```
def max(a,b,c):
    if a >= b and a >=c :
        print(a,"is the maximum number")
    elif b>c:
        print(b,"is the maximum number")
    else:
        print(c,"is the maximum number")

a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
c = int(input("Enter third number: "))
max(a,b,c)
```

```
Enter first number: 56
Enter second number: 97
Enter third number: 123
123 is the maximum number
```

7. Write a program to display ASCII code of a character and vice versa.

In [25]:
```
new = 0
while new== 0:
    word = input("Enter a character:")
    for i in word:
        print("Ascii code of", i, "is:", ord(i))
    code = int(input("Enter an Ascii code:"))
    print("Character value of", code, "is:", chr(code))
    new = int(input("Enter 0 to continue. Enter any other Number to Exit: "))
```

```
Enter a character:Muskan
Ascii code of M is: 77
Ascii code of u is: 117
Ascii code of s is: 115
Ascii code of k is: 107
Ascii code of a is: 97
Ascii code of n is: 110
Enter an Ascii code:98
Character value of 98 is: b
Enter 0 to continue. Enter any other Number to Exit: 9
```

8. Write a Program to check if the entered number is Armstrong or not.

In [26]:
```
new = 0
while new == 0:
    num = input("Enter the number to check if it is armstrong or not : ")
    a = 0
    for i in range(0, len(num)):
        a += int(num[i]) ** len(num)
    val = str(a)
    if val == num:
        print("Its an armstrong number")
    else:
        print("Its not an armstrong number")
    new = int(input("Enter 0 to check any other number. Enter any other Number to
```

```
Enter the number to check if it is armstrong or not : 4150
Its not an armstrong number
Enter 0 to check any other number. Enter any other Number to Exit: 0
Enter the number to check if it is armstrong or not : 407
Its an armstrong number
Enter 0 to check any other number. Enter any other Number to Exit: 7
```

9. Write a Program to find factorial of the entered number using recursion.

In [7]:
```
def fact(num):
    if num == 1:
        return num
    else:
        return num*fact(num - 1)

num = int(input("Enter a number:"))
if num < 0:
    print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
    print("The factorial of 0 is 1")
else:
    print("Factorial of", num, "is:", fact(num))
```

```
Enter a number:5
Factorial of 5 is: 120
```

10.Write a Program to enter the number of terms and to print the Fibonacci Series.

In [28]:
```
i = int(input("Enter no. of terms: "))
a= 0
b=1
count = 0
print("Fibonacci series upto",i,"number of terms is: ",end="")
while count<i:
    if i<0:
        print("Invalid input")
    elif i == 0:
        print(0)
    elif i == 1:
        print(1)
    else:
        print(a, end="  ")
        c = a + b
        a = b
        b = c
    count+=1
```

```
Enter no. of terms: 13
Fibonacci series upto 13 number of terms is: 0  1  1  2  3  5  8  13  21  34  5
5  89  144
```

11. Write a Program to enter the numbers and to print greatest number using loop.

In [29]:
```
greatest = int(input("Enter a number :"))
n = 0
while n==0:
    num = int(input("Enter another num or Enter -1 to exit :"))
    if num > greatest:
        greatest = num
    elif num == -1:
        break
print("Maximum of given numbers is:",greatest)
```

```
Enter a number :45
Enter another num or Enter -1 to exit :23
Enter another num or Enter -1 to exit :67
Enter another num or Enter -1 to exit :-1
Maximum of given numbers is: 67
```

12. Write a Program to enter the string and to check if it's palindrome or not using loop.

In [31]:
```
def palo(s):
    j = 1
    for i in range(0, (len(s))//2):
        if s[i] == s[i - j]:
            j += 2
            return True
        else:
            return False
new = 0
while new == 0:
    s = input("Enter a string: ")
    if (palo(s) == True):
        print(s, "is a palindrome word")
    else:
        print(s, "is not a palindrome word")
    new = int(input("Enter 0 to continue. Enter any other Number to Exit: "))
```

```
Enter a string: refer
refer is a palindrome word
Enter 0 to continue. Enter any other Number to Exit: 0
Enter a string: civic
civic is a palindrome word
Enter 0 to continue. Enter any other Number to Exit: 9
```

13. Write a Program to enter the 5 subjects numbers and print the grades A/B/C/D/E.

In [32]:
```
def marks(n):
    if n > 0.9:
        print("Grade A")
    elif 0.90>= n > 0.80:
        print("Grade B")
    elif 0.80>= n > 0.70:
        print("Grade C")
    elif 0.70>= n > 0.60:
        print("Grade D")
    else:
        print("Grade E")

a = int(input("Enter number of subject 1:" ))
b = int(input("Enter number of subject 2:" ))
c = int(input("Enter number of subject 3:" ))
d = int(input("Enter number of subject 4:" ))
e = int(input("Enter number of subject 5:" ))
sum = a+b+c+d+e
avg = sum/500
marks(avg)
```

```
Enter number of subject 1:89
Enter number of subject 2:67
Enter number of subject 3:93
Enter number of subject 4:100
Enter number of subject 5:65
Grade B
```