

In [1]:

```
#finding area of circle  
#area formula = Pi r^2  
#perimeter formula = 2*pi*r  
#value of Pi = 3.14 or 22/7
```

In [3]:

```
r = int(input("Enter the Radius: "))  
pi = 3.14  
area = pi*r*r  
print("For the radius",r , "the Area of circle is ",area)
```

Enter the Radius: 10
For the radius 10 the Area of circle is 314.0

In [5]:

```
#area of square  
#area formula = side*side  
#perimeter formula = 4s
```

In [7]:

```
a = float(input("Enter the side of the square: "))  
area = a*a  
print("The area of the square is ",area)
```

Enter the side of the square: 10
the area of the square is 100.0

In [8]:

```
#area of rectangle  
#area formula = l*b  
#perimeter formula = 2(l+b)  
a = float(input("Enter the length of rectangle: "))  
b = float(input("Enter the breadth of the rectangle: "))  
area = a*b  
print("The area of the rectangle is ",area)
```

Enter the length of rectangle: 15
Enter the breadth of the rectangle: 2
The area of the rectangle is 30.0

In [9]:

```
#control statements  
#if, if else, elif  
#one way branching - if  
#two way branching - if else , elif
```

In [10]:

```
#if (condition):  
#    indendation block(tab space/four sapce)  
#else:  
#    In else no condition can be written
```

In [13]:

```
a = int(input("Enter your age: "))  
if a>20:  
    print("Welcome")  
else:  
    print("Sorry,age limit not satisfied")
```

Enter your age: 23
Welcome

In [17]:

```
inp = input("Enter input: ")  
if ord(inp) == 32:  
    print("You have entered space character")  
elif (ord(inp) > 64 and ord(inp) < 91) or (ord(inp) > 96 and ord(inp) < 123):  
    print("You have entered an alphabet")  
elif (ord(inp) > 47 and ord(inp) < 58):  
    print("You have entered a digit")  
else:  
    print("You have entered a special character")
```

Enter input: [
You have entered a special character

In [24]:

```
a = input("Enter Input: ")  
if (a.isalpha()):  
    print("Text")  
elif (a.isdigit()):  
    print("Number")  
elif (a.isspace()):  
    print("Space")
```

Enter Input: 4
Number

A company decided to give bonus to all its employee on diwali a 5% bonus on salary is given to the male workers and 10% bonus on female workers write a program to enter the salary and gender of the employee if salary is less than 10,000 then the employee gets extra 2% bonus on the salary calculate the bonus that has to be given to the employee and display the salary of the employee will get

In [40]:

```
salary = int(input("Enter Salary "))
gender = int(input("Enter Gender\n1 for Male\n2 for female\n"))
out_val = 0
if gender == 1:
    if salary < 10000:
        out_val = (salary * 0.07) + salary
    else:
        out_val = (salary * 0.05) + salary
elif gender == 2:
    if salary < 10000:
        out_val = (salary * 0.12) + salary
    else:
        out_val = (salary * 0.10) + salary
print("Initial Salary is ",salary)
print("After bonus salary is ",out_val)
print("Total bonus amount is",out_val-salary)
```

```
Enter Salary 45
Enter Gender
1 for Male
2 for female
1
Initial Salary is  45
After bonus salary is  48.15
Total bonus amount is 3.1499999999999986
```

In [42]:

```
# Python program to check if year is a Leap year or not

year = 1700

if (year % 400 == 0) and (year % 100 == 0):
    print("{0} is a leap year".format(year))

elif (year % 4 ==0) and (year % 100 != 0):
    print("{0} is a leap year".format(year))

else:
    print("{0} is not a leap year".format(year))
```

1700 is not a leap year

In [67]:

```
#even or odd
num = int(input("enter a number: "))
if (num%2==0):
    print("its an even number")
else:
    print("odd number")
```

```
enter a number: 20
its an even number
```

In [49]:

```
#check entered value is positive or negative
Num = int(input("Enter a number: "))
if(Num>0):
    print("You just entered a positive number")
else:
    print("You just entered a negative number")
```

Enter a number: -5
You just entered a negative number

In [74]:

```
inp = input("Enter Character ")
if inp in ["a","e","i","o","u"]:
    print("It is a vowel in lower case")
if inp in ["A","E","I","O","U"]:
    print("It is a vowel in upper case")
else:
    print("It is a consonant")
```

Enter Character A
It is a vowel in upper case

In [72]:

```
#vowel or not

inp = input("Enter Character ")
asc = ord(inp)
if asc in [65,69,73,79,85,97,101,105,111,117]:
    print("It is a vowel")
else:
    print("It is a consonant")
```

Enter Character Q
It is a consonant

Looping

In [75]:

```
# Types of Looping
# 1. entry check loop (for loop & while loop)
# 2. exit check loop (do while loop)
```

for loop

In [77]:

```
for i in range (-5,10): #here -5 is start value and 10 is start value  
    #stop value is considered as stop value -1  
    print(i)
```

-5
-4
-3
-2
-1
0
1
2
3
4
5
6
7
8
9

In [79]:

```
for i in range (-5,10):  
    print(i,end="  ")
```

-5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9

In [80]:

```
for i in range (-5,10,2): #2 here is known as step value  
    print(i,end="  ")
```

-5 -3 -1 1 3 5 7 9

In [84]:

```
for i in range (1,20,3):  
    print(i,end="  ")
```

1 4 7 10 13 16 19

In [85]:

```
#Leap year  
print("the leap years from 1900 - 2010 are \n")  
for i in range (1900,2011):  
    if(i%4==0 and i%100 != 0):  
        print(i,end = "  ")
```

the leap years from 1900 - 2010 are

1904	1908	1912	1916	1920	1924	1928	1932	1936	1940	1944
1948	1952	1956	1960	1964	1968	1972	1976	1980	1984	1988
1992	1996	2004	2008							

In [89]:

```
#factorial using for loop
a = int(input("enter a number: "))
mult = 1
for i in range(1,a+1):
    mult = mult*i
print("Answer is ",mult)
```

enter a number: 3
Answer is 6

Task

In [91]:

```
#write a program to sum of square of even numbers using for loop
n = int(input("Enter a number: "))
sum_val = 0
for i in range(n+1):
    if (i%2==0):
        sum_val = sum_val + (i**2)
print("Answer is", sum_val)
```

Enter a number: 10
Answer is 220

In []: