```python
#Program 1:- Addition of 2 numbers
def add(x,y):
    print("The addition is : ")
    return x+y

while True:
    print(add(int(input("Enter 1st number: ")),int(input("Enter 2nd number: "))))
    a=input("Do you want to continue (Press Y to continue)")
    if(a=='y' or a=='Y') is True:
        continue
    else:
        break


#***********Output**********
# Enter 1st number: 45
# Enter 2nd number: 55
# The addition is :
# 100
# Do you want to continue (Press Y to continue)y
# Enter 1st number:
```

```python
#Program 2 :- Factorial of a number

def fact(num):
    return 1 if (num == 1 or num == 0) else num * fact(num-1)

while True:
    a = int(input("Enter a number : "))
    fact(a)
    print("Factorial of number ",a," is ",fact(a))
    z=input("Do you want to calculate again ? (Press Y to continue)")
    if(z=='y' or z=='Y') is True:
        continue
    else:
        break


# **********OUTPUT**********
# Enter a number : 5
# Factorial of number  5  is  120

# Enter a number : 0
# Factorial of number  0  is  1
```

```python
#Program 3 :- To calculate the simple interest

def SimpleIntr(x,y,z):
    print("The Principal amount is :",x," Rupee(s)")
    print("The Rate of Interest is :",y,"%")
    print("The Time period  is :", z,"years")
    return ((x*y*z)/100)

def inp():
    a=float(input("Enter the Principal amount (In Rupees): "))
    b=float(input("Enter the Rate of Interest (In percentage): "))
    c=float(input("Enter the Time Period (In years): "))
    print("The Simple Interest is ", SimpleIntr(a,b,c))

while True:
    inp()
    w = input("Do you want to calculate again ? (Press Y to continue)")
    if(w =='y' or w =='Y') is True:
        continue
    else:
        break

# ********OUTPUT********
# Enter the Principal amount (In Rupees): 4000
# Enter the Rate of Interest (In percentage): 5
# Enter the Time Period (In years): 3
# The Principal amount is : 4000.0  Rupee(s)
# The Rate of Interest is : 5.0 %
# The Time period  is : 3.0 years
# The Simple Interest is  600.0
# Do you want to calculate again ? (Press Y to continue)
```

```python
# Program 4:- To find the compound interest
def compIntr(prin, rate, time):
    result = prin*(pow((1+ rate/100),time))
    return result

while True:
    p = float(input("Enter the principal amount: "))
    r = float(input("Enter the rate of interest: "))
    t = float(input("Enter the time in years:"))

    amount =compIntr(p,r,t)
    interest = amount - p
    print("Compound amount is %2.f" %amount)
    print("Compound Interest is %2.f" %interest)
    a = input("Do you want to calculate more? (Press Y to continue)")
    if(a=="Y" or a=="y"):
        continue
    else:
        break

# ********OUTPUT**********
# Enter the principal amount: 4000
# Enter the rate of interest: 4
```

```
# Enter the time in years:3
# Compound amount is 4499
# Compound Interest is 499
# Do you want to calculate more? (Press Y to continue)
```

```python
#Program 5:- To find the area of the circle
def area(rad):
    ans = 3.14*(rad)**2
    return ans

while True:
    r = float(input("Enter the radius :"))
    print("The area of the circle is ",area(r))
    a = input("Do you want to continue (Press Y to continue )")
    if( a == "y" or a == "Y"):
        continue
    else:
        break

# ******OUTPUT******
# Enter the radius :5
# The area of the circle is  78.5
# Do you want to continue (Press Y to continue )
```