1. # Add two numbers

def add(a,b):

sum=a+b

return(sum)

x=int(input("Enter your first choice: "))

y=int(input("Enter your second choice: "))

print("The sum of two numbers is: ",add(x,y))

2. #Factorial of a number

def factorial(num):

f=1

while num>0:

f=f\*num

num=num-1

return(f)

n=int(input("Enter your choice: "))

print("The factorial of a number is: ",factorial(n))

3. #Armstrong number

def count(num):

p=0

c=0

while num>0:

r=num%10

p=p\*10+r

num=num//10

c=c+1

return(c)

def armstrong(num):

p=0

i=count(num)

print(i)

while num>0:

r=num%10

p=p+r\*\*i

num=num//10

return(p)

num=int(input("Enter your choice: "))

if armstrong(num)==num:

#check for 1634 it will give 1634

print("The number is armstrong number")

else:

# check for 123 it will give 36

print("The number is not an armstrong number")

4. #Print all prime numbers in an interval

def prime(num):

c=0

for i in range (1,num+1):

if num%i==0:

c=c+1

return(c)

n=int(input("Enter a range: "))

print("The prime numbers are:")

for i in range(1,n+1):

if prime(i)==2:

print(i,end=" ")

5. #Check a number is prime or not

def prime(num):

c=0

for i in range (1,num+1):

if num%i==0:

c=c+1

return(c)

x=int(input("Enter your choice: "))

if prime(x)==2:

print("The number is a prime number")

else:

print("The number is not a prime number")

6. #Area of a circle

import math

def area(c):

i=math.pi

a=i\*(c\*c)

return(a)

r=int(input("Enter the radious of the circle: "))

print("Area of the circle is: ",area(r))

7. # Simple interest

def simple\_interest(a,b,c):

si=(a\*b\*c)/100

return(si)

p=int(input("Enter the Principal: "))

r=int(input("Enter the rate of interest: "))

t=int(input("Enter the time period: "))

print("The simple interest is: ",simple\_interest(p,r,t))

8. # Compound interest

def compound\_interest(principal,rate,time):

result=principal\*(pow((1+rate/100),time))

return(result)

p=float(input("Enter the principal amount: "))

r=float(input("Enter the interest rate: "))

t=float(input("Enter the time in years: "))

amount=compound\_interest(p,r,t)

interest=amount-p

print("Compound amount: %.3f"%amount)

print("Compound interest: %.3f"%interest)