#QUESTION-1

```
a=int(input("Enter the number: "))
print(a, "in binary is:", bin(a).replace("0b" ,  ""))
```

```
assignment 3
C:\python37\python.exe "C:/Users/Dell/PycharmProjects/pythontuts/assignment 3.py"
Enter the number: 5
5 in binary is: 101

Process finished with exit code 0
```

#QUESTION-2

```
while True:
   expression = input('Enter a mathematical expression:').replace("^" , "**")
   print (expression, "=" , end="")
   print(f" {eval(expression):.4f}")
   break
```

```
C:\python37\python.exe "C:/Users/Dell/PycharmProjects/pythontuts/assignment 3.py"
Enter a mathematical expression:5
5 = 5.0000

Process finished with exit code 0
```

#QUESTION-3

```
import math
#A)
a = (3+4)*(5)
print("(3+4)*(5)", "=", a)

#B)
a=int(input("Enter the value of 'n' to calculate the value of '(n(n-1))/2': "))
print("For 'n':" , a , ", the value of '(n(n-1))/2' is: " , end="")
```

```
print((a*(a-1))/2)


#C)

r=int(input("Enter the value of 'r' to calculate 4pi(r^2): "))

b=4*(math.pi)(r*2)

print("For 'r':" , r, ", the value of 4pi(r^2) is: " ,end="")

print(f"{b:.4f}")


#D)

A_1=int(input("Value of a in degrees: "))

A_2=int(input("Value of b in degrees: "))

c=A_1*(math.pi)/180

d=A_2*(math.pi)/180

e=int(input("Value of 'r': "))

print("The value of expression '(r*(cos(a)^2) + r*(sin(b)^2))^1/2': " , math.sqrt((e*(math.cos(c))*2)
+e(math.sin(d))**2))


#E)

print("To find the slope between two points.")

X_1=int(input("Enter the point x-axis of point 1: "))

Y_1=int(input("Enter the point y-axis of point 1: "))

X_2=int(input("Enter the point x-axis of point 2: "))

Y_2=int(input("Enter the point y-axis of point 2: "))

print("The slope between 2 points is: " , end="")

print(f"{(Y_2 - Y_1)/(X_2 - X_1):.4f}")
```

```
Value of b in degrees: 2
Value of 'r': 3
The value of expression '(r*(cos(a)^2) + r*(sin(b)^2))^1/2':  2.450048998601581
To find the slope between two points.
Enter the point x-axis of point 1: 1
Enter the point y-axis of point 1: 2
Enter the point x-axis of point 2: 3
Enter the point y-axis of point 2: 4
The slope between 2 points is: 1.0000
```

#QUESTION-4

```
for a in range(5):
    print(a)
for b in range(3,10):
    print(b)
   for c in range(4,13,3):
    print(c)
for d in range(15,5,-2):
    print(d)

for e in range(5,3,-1):
    print(e)
```

```
15
13
11
9
7
5
4

Process finished with exit code 0
```

QUESTION-5

```
H_w = 1.00794
C_w = 12.0107
O_w = 15.9994

H = int(input("Enter number of hydrogen atoms "))
C = int(input("Enter number of carbon atoms "))
O = int(input("Enter number of oxygen atoms "))

weight = H*H_w + C*C_w + O*O_w
```

print("The molecular weight of the compound is", weight)

```
C:\python37\python.exe "C:/Users/Dell/PycharmProjects/pythontuts/assignment 3.py"
Enter number of hydrogen atoms 5
Enter number of carbon atoms 6
Enter number of oxygen atoms 4
The molecular weight of the compound is 141.1015

Process finished with exit code 0
```