Question:1

Write a Python program that takes two integers as input and calculates. The sum of their squares only if both numbers are odd. If any of the numbers is Even, print a message indicating that the calculation is not performed.

Code:

```
1  n1=int(input("Enter Number: "))
2  n2=int(input("Enter Number: "))
3  if n1%2!=0 and n2%2!=0:
4      print(f"{n1**2+n2**2}")
5  else:
6      print("Invalid Number")
7
```

Output:

```
Enter Number: 2
Enter Number: 6
Invalid Number

[Program finished]
```

```
Enter Number: 3
Enter Number: 9
90

[Program finished]
```

Question:2

Write a Python program to find and print the factorial of a given number. Ensure the program includes a loop (either for or while) to calculate the Factorial. Additionally, implement a condition to handle the case when the input Number is negative, and print an appropriate message in such cases.

Code:

```python
1  n1=int(input("Enter Number: "))
2  multiply=1
3  i=1
4  while i<=n1:
5      multiply*=i
6      i+=1
7  print(f"The Factorial of {n1} is {multiply}")
```

Output:

```
Enter Number: 6
The Factorial of 6 is 720

[Program finished]
```

Question:3

Write a program that randomly generates a number between 1 and 100. The user Has to guess the number within 5 attempts. After each guess, provide feedback: "Too high", "Too low", or "Correct!". If the user guesses correctly within 5 Attempts, print "Congratulations! You guessed the number." Otherwise, print "Game over! You ran out of guesses."

Code:

```
1  for i in range(5):
2      import random
3      num=random.randint(1,100)
4      x=int(input("Enter Number: "))
5      if num==x:
6          print("You Win Congratulations :)")
7          break
8      elif num>x:
9          print("Too low")
10     elif num<x:
11         print("Too High")
12 print("Game Over :(")
```

Output:

```
Enter Number: 4
Too low
Enter Number: 56
Too low
Enter Number: 78
Too High
Enter Number: 65
Too low
Enter Number: 70
Too High
Game Over :(
```

Question:4

Write a program that asks the user for the following information about their

Restaurant bill:

Number of people

Cost of each meal

Sales tax percentage

Tip percentage

Based on the information provided, calculate and print the following:

Total cost of food

Total sales tax

Total tip amount

Total bill amount per person

Code:

```
1   people=int(input("Enter a Number of
    People: "))
2   cost=int(input("Enter a Cost of each
    meal: "))
3   tax=float(input("Enter Sales Tax
    percentage: "))
4   tip=float(input("Enter Tip Percentage:
    "))
5   total_cost=people*cost
6   total_tax=(total_cost*tax)/100
7   total_tip=(total_cost*tip)/100
8   total_bil=(total_cost+total_tax-
    total_tip)
9   total_per_person=(total_cost+
    total_tax-total_tip)/people
10  print(f"Total Cost {total_cost}")
11  print(f"Total Tax is {total_tax}")
12  print(f"Total Tip is {total_tip}")
13  print(f"Total Bill is {total_bil}")
14  print(f"Total Bill amount per person is
    {total_per_person}")
15
```

Output:

```
Enter a Number of People: 5
Enter a Cost of each meal: 500
Enter Sales Tax percentage: 10
Enter Tip Percentage: 5
Total Cost 2500
Total Tax is 250.0
Total Tip is 125.0
Total Bill is 2625.0
Total Bill amount per person is 525.0

[Program finished]
```