1.Define two variables and assign them values of 100 and 29. After this, make the interpreter sum up the two numbers and multiply their result by 3. Calculate the 2nd exponent of the previous numberand save it to a new variable.Make the program print the result in the following way: The result of the calculation was:149769 Make sure you use valid variable names and name your variables meaningfully. Make sure that output of your program has indentation as shown in the above example.

Comments : first_number = 100 and second_number = 29 assign the initial values. sum_result = (first_number + second_number) * 3 sums the two numbers and multiplies by 3. squared_result = sum_result ** 2 calculates the square (2nd exponent) of the sum result. print("The result of the calculation was:", squared_result) prints the output in the required format.

```
first_number = 100
second_number = 29
sum_result = (first_number+second_number)* 3
squared_result = sum_result ** 2
print("The Result of the calculation was:" , squared_result)
```

```
The Result of the calculation was: 149769
```

2.Writea program thatcreatesa password by asking the user to input their name, age, year of birth. Save all in separate variables using the right type for each of them. Program shouldcreate the password in following way: takes last twodigits of year of birth, first 3 letters from name, and the 2ndpower of the age according to the example below: Name: John Year of birt: 1995 Age: 26 Password: 95Joh676 Hint: to get the desired output in print() all variableshas to be type str.

Comments : This fulfills the requirement to generate a password based on the specified logic andprints it in the desired format.

```
name =input("Enter Your Name:")
year_of_birth = int(input("Enter Your Year of Birth:"))
age = int(input("Enter Your Age:"))
last_two_digits =str(year_of_birth)[-2:]
first_three_letters = name[:3]
age_squared = age ** 2
password = last_two_digits + first_three_letters + str(age_squared)
print("password:" , password)
```

```
Enter Your Name: Jhon
Enter Your Year of Birth: 1995
Enter Your Age: 26

password: 95Jho676
```

3.Write a program that asks for two numbers. If both numbersare even, the program prints "Both numbers are even." If only one of the numbers is even, the program prints "One of the numbers is even.". Finally, if neither of the numbers is even, the program prints "Both numbers are odd". First number: 5 Second number: 6 One of the numbers is even

Comments : % 2 == 0 is used to check if a number is even. I have put simple conditional statements (if,and,or) to check different possibilities.

```
first_number = int(input("Enter the first number:"))
second_number = int(input("Enter the second number:"))
if first_number % 2 == 0 and second_number % 2 == 0:
    print("Both numbers are even.")
elif  first_number % 2 == 0 or second_number % 2 == 0:
    print("One of the numbers is even.")
else:
    print(" Both numbers are odd.")
```

```
Enter the first number: 5
Enter the second number: 6

One of the numbers is even.
```

4.Create a program, which asks the user for a number, and calculates the sum of all positive numbers from 0 to the usergiven input.If the user gives the number 4, the program calculates the sum 0+1+2+3, if 7, the calculation is 0+1+2+3+4+5+6. Program operates as bellow: Give an integer: 5 The sum was: 10

Comments : I input a number using input() and convert it into a integer by using int(). The range(number) function generates a sequence of numbers starting from 0 up to (but not including) number. The sum() function calculatesthe sum of all numbers in this range. The result is printed in the format "The sum was:" followed by the sum value.

```
number = int(input("Give an integer:"))
sum_of_numbers = sum(range(number))
print("The sum was:" , sum_of_numbers)
```

```
Give an integer: 5

The sum was: 10
```

5.Create a program that can be used as a guessing game. The game is played by Dealerand Player. Dealergenerates a randominteger number between 0 and 10. Player has to guess it. The program should take input from Player as long as Player inputs same numberas Dealer's input was. Player getsadviceto choose greater or smaller numbers in next choice.Finally,program has to also displaythe number of tries until the number is guessed.Program operates as follow: Player: 2 Try a greater number. Player: 7 Try a smaller number. Player: 5 That's right! Number of tries: 3 Hint: import random and generate random numbers by using random.randint() in the desired range.

```
import random

dealer_number = 5

tries = 0
player_guess = None
```

```
while player_guess != dealer_number:
    player_guess = int(input("Player: "))
    tries += 1

    if player_guess < dealer_number:
        print("Try a greater number.")
    elif player_guess > dealer_number:
        print("Try a smaller number.")

print(f"That's right! Number of tries: {tries}")
```

```
Player:  2

Try a greater number.

Player:  7

Try a smaller number.

Player:  5

That's right! Number of tries: 3
```

comments : The dealer's number is 5. The player guesses 2 first, and the program tells the player to "Try a greater number." The player guesses 7, and the program advises to "Try a smaller number." Finally, the player guesses 5, which is correct, and the program prints "That's right! Number of tries: 3."

As a bonus(2points)you can extend your program to allow secondplay where another player can play and finally also display fi Player1 or Player2 wins, by comparing the numbers of tries and choosing the one with smaller number. Player1: 2 Try a greater number. Player1:7 Try a smaller number. Player1: 5 That's right! Number of tries: 3 Player2: 2 Try a greater number. Player2: 7 Try a smaller number. Player2: 6 Try a smaller number. Player2: 5 That's right! Number of tries: 4 Winner is Player1

```
import random

dealer_number = 5

def play_game(player_name):
    tries = 0
    player_guess = None
    while player_guess != dealer_number:
        player_guess = int(input(f"{player_name}: "))
        tries += 1
        if player_guess < dealer_number:
            print("Try a greater number.")
        elif player_guess > dealer_number:
            print("Try a smaller number.")
    print(f"{player_name} That's Right! Number of tries: {tries}")
```

```
    return tries

print("Player1's turn")
player1_tries = play_game("Player1")

print("Player2's turn")
player2_tries = play_game("Player2")

if player1_tries < player2_tries:
    print("Winner is Player1")
elif player2_tries < player1_tries:
    print("Winner is Player2")
else:
    print("It's a tie!")
```

```
Player1's turn

Player1:  2

Try a greater number.

Player1:  7

Try a smaller number.

Player1:  5

Player1 That's Right! Number of tries: 3
Player2's turn

Player2:  2

Try a greater number.

Player2:  7

Try a smaller number.

Player2:  6

Try a smaller number.

Player2:  5

Player2 That's Right! Number of tries: 4
Winner is Player1
```