Assignment 2

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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 number and save it to a new variable. Make the program print the result in the following way: The result of the calculation was: 149769

In [1]:
```
X=100
Y=29
C=X+Y
D=C*3
print("SUM :", C)
print("ANSWER :",D)
E = D**2
print("second exponent value :",E)
```

```
SUM : 129
ANSWER : 387
second exponent value : 149769
```

2.Write a program that creates a 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 should create the password in following way: takes last two digits of year of birth, first 3 letters from name, and the 2nd power of the age according to the example below: Name: John Year of birt: 1995 Age: 26 Password: 95Joh676

In [2]:
```
Name=str(input("what is your name: "))
Age=int(input("How old are you? : "))
birthyear=str(input("what is your birthyear: "))
print ("Name",Name)
print ("Age",Age)
print ("birthyear",birthyear)
print("password: ",birthyear[2:]+Name[:3]+str(Age**2))
```

```
what is your name: John
How old are you? : 26
what is your birthyear: 1995
Name John
Age 26
birthyear 1995
password:  95Joh676
```

3.Write a program that asks for two numbers. If both numbers are 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

In [2]:
```
x=int(input("what is the first number: " ))
y=int(input("what is the second number: " ))
print ("first number = ",x)
print ("second number = ",y)
if(x%2==0):
    if(y%2==0):
        print("Both numbers are even")
    else:
        print("One of the numbers is even")
else:
    if(y%2==0):
        print("One of the numbers is even")
    else:
        print("Both numbers are odd")
```

```
what is the first number: 5
what is the second number: 6
first number =  5
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 user given 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

In [3]:
```
start = int(0)
end = int(input("Enter the number: "))
for num in range(start, end + 1):
    if num >= 0:
        print(num, end=" ")
x = int(end)
i = 1
sum = 0
while x > i:
    sum = sum + i
    i += 1
print("The sum was = ",  sum)
```

```
Enter the number: 5
0 1 2 3 4 5 The sum was =  10
```

5.1.Create a program that can be used as a guessing game. The game is played by Dealer and Player. Dealer generates a random integer number between 0 and 10. Player has to guess it. The program should take input from Player as long as Player inputs same number as Dealer's input was. Player gets advice to choose greater or smaller numbers in next choice. Finally, program has to also display the 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

In [4]:
```
import random
number = random.randint(1, 10)

number_of_guesses = 0
number = 5
while number_of_guesses <5:
    guess = int(input("player:"))
    number_of_guesses += 1
    if guess < number:
        print('Try a greater number.')
    if guess > number:
        print('Try a smaller number.')
    if guess == number:

        break
if guess == number:
    print("That's right ! number of tries:" + str(number_of_guesses)  )
```

```
player:2
Try a greater number.
player:7
Try a smaller number.
player:5
That's right ! number of tries:3
```

5.2As a bonus (2 points) you can extend your program to allow second play 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.

In [2]:
```
import random

def numberfind(player_name):
    number = random.randint(1, 10)
    number_of_guesses = 0
    number = 5

    while True:
        guess = input("player1: ")
        try:
            guess = int(guess)
        except ValueError:
            print("Invalid input. Please enter a number between 1 and 100.")
            continue

        number_of_guesses += 1
        if guess < number:
            print("Try a greater number.")
        elif guess > number:
            print("Try a smaller number.")
        else:
            print(f"That's right! Number of tries: {number_of_guesses}")
            return number_of_guesses

number_of_guesses_player1 = numberfind("Player 1")
print()
number_of_guesses_player2 = numberfind("Player 2")
print()
if number_of_guesses_player1 < number_of_guesses_player2:
    print("Winer is Player 1 ")

elif number_of_guesses_player2 > number_of_guesses_player2:
    print("Winer is Player 2")
```

```
player1: 2
Try a greater number.
player1: 7
Try a smaller number.
player1: 5
That's right! Number of tries: 3

player1: 2
Try a greater number.
player1: 7
Try a smaller number.
player1: 6
Try a smaller number.
player1: 5
That's right! Number of tries: 4

Winer is Player 1
```

In [ ]:
```

```