# 1. Assignement 2

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## Question 1

```
In [38]:  ### Define two variables with values 100 and 29


          initial_value = 100
          additional_value = 29



          total_multiplied = (initial_value + additional_value) * 3



          final_result = total_multiplied ** 2



          print(f"The result of the calculation was:\n{final_result}")
```

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

## Question 2

```
In [43]:  ### Asking user for input


          name = input("Enter your name: ")
          year_of_birth = int(input("Enter your year of birth: "))
          age = int(input("Enter your age: "))

          ### Creating the password

          last_two_digits = str(year_of_birth)[-2:]
          first_three_letters = name[:3]
          age_squared = str(age ** 2)

          ### Combine to create the password
```

```
password = last_two_digits + first_three_letters + age_squared


print("Your password is:", password)
```

Your password is: 95Joh676

## Question 3

In [44]:
```
### Asking from user for two numbers

number1 = int(input("Enter the first number: "))
number2 = int(input("Enter the second number: "))

### Check whether each number is even or odd

is_number1_even = number1 % 2 == 0
is_number2_even = number2 % 2 == 0

# Determine the result
if is_number1_even and is_number2_even:
    print("Both numbers are even.")
elif is_number1_even or is_number2_even:
    print("One of the numbers is even.")
else:
    print("Both numbers are odd.")
```

One of the numbers is even.

## Question 4

In [45]:
```
user_input = int(input("Give an integer: "))

#### Calculate the sum of all positive numbers from 0 to the input number

sum_of_numbers = sum(range(user_input))

print("The sum was:", sum_of_numbers)
```

The sum was: 10

## Question 5

In [42]:
```
import random

def guessing_game():
```

```python
    ### Dealer generates a random number between 0 and 10

    dealer_number = random.randint(0, 10)
    attempts = 0

    while True:
        # Player makes a guess
        player_guess = int(input("Player: "))
        attempts += 1

        ### Check the guess is correct

        if player_guess == dealer_number:
            print(f"That's right! Number of tries: {attempts}")
            break
        elif player_guess < dealer_number:
            print("Try a greater number.")
        else:
            print("Try a smaller number.")

    return attempts

print("Player 1's turn:")
player1_attempts = guessing_game()

print("\nPlayer 2's turn:")
player2_attempts = guessing_game()

### Determine the winner based on fewer attempts

if player1_attempts < player2_attempts:
    print("\nWinner is Player 1")
elif player2_attempts < player1_attempts:
    print("\nWinner is Player 2")
else:
    print("\nIt's a tie!")
```

```
Player 1's turn:
Try a greater number.
Try a greater number.
Try a greater number.
Try a greater number.
Try a greater number.
Try a greater number.
```

```
That's right! Number of tries: 7

Player 2's turn:
Try a greater number.
Try a smaller number.
Try a greater number.
Try a smaller number.
Try a smaller number.
That's right! Number of tries: 6

Winner is Player 2
```