Python Functions: Exercise

- **Satinder Singh Sall, 2570180**
- Artificial Intelligence and Machine Learning.

Exercise - 1: Function to find square of a number.

In [1]:
```
def square(n):
    return n * n

square(2)
```

Out[1]: 4

Exercise - 2: Function to calculate simple interest.

In [2]:
```
def simple_interest(p, r, t):
    return (p * t * r) / 100

simple_interest(1000, 5, 2)
```

Out[2]: 100.0

Exercise - 3: Function to calculate factorial of a number.

In [3]:
```
def factorial(n):
    fact = 1
    for i in range(1, n + 1):
        fact = fact * i
    return fact

factorial(5)
```

Out[3]: 120

Exercise - 4: Function to check weather a number is prime.

In [6]:
```
def is_prime(n):
```

```
    if n <= 1:
        return False

    for i in range(2, n):
        if n % i == 0:
            return False

    return True

num = 10
if is_prime(num):
    print(num, "is a prime number.")
else:
    print(num, "is not a prime number.")
```

```
10 is not a prime number.
```

Exercise - 5: Function to return both maximum and minimum of list.

In [7]:
```
def find_max_min(numbers):
    if not numbers:
        return None, None

    max_value = numbers[0]
    min_value = numbers[0]

    for num in numbers:
        if num > max_value:
            max_value = num
        if num < min_value:
            min_value = num

    return max_value, min_value

nums = [10, 5, 8, 20, 3]
maximum, minimum = find_max_min(nums)

print("Maximum:", maximum)
print("Minimum:", minimum)
```

```
Maximum: 20
Minimum: 3
```

Exercise - 6: Function to count even numbers in a list:

In [8]:
```
def count_even(numbers):
    count = 0

    for num in numbers:
```

```
        if num % 2 == 0:
            count += 1

    return count

nums = [1, 2, 3, 4, 5, 6, 8]
print("Number of even numbers:", count_even(nums))
```

```
Number of even numbers: 4
```

Exercise - 7: Funtion to find length of a tuple.

In [9]:
```
def tuple_length(t):
    return len(t)

my_tuple = (10, 20, 30, 40)
print("Length of tuple:", tuple_length(my_tuple))
```

```
Length of tuple: 4
```

Exercise - 8: Function to print all values of dictionary.

In [10]:
```
def print_values(d):
    for value in d.values():
        print(value)

my_dict = {"a": 10, "b": 20, "c": 30}
print_values(my_dict)
```

```
10
20
30
```

Exercise - 9: Function to count occurances of an element in a touple.

In [11]:
```
def count_occurrences(t, element):
    return t.count(element)

my_tuple = (1, 2, 3, 2, 4, 2, 5)
print("Occurrences:", count_occurrences(my_tuple, 2))
```

```
Occurrences: 3
```

Exercise - 10: Function to reverse a list.

In [12]:
```
def reverse_list(lst):
    lst.reverse()
```

```
    return lst

numbers = [1, 2, 3, 4, 5]
print("Reversed list:", reverse_list(numbers))
```

```
Reversed list: [5, 4, 3, 2, 1]
```

In [ ]: