

# Exercises

1. Declare a variable `message` and assign it a string. Print the length of the string.
2. Declare two variables, `num1` and `num2`, and assign them integer values. Print the result of adding, subtracting, multiplying, and dividing the two variables.
3. Declare a variable `my_list` and assign it a list of numbers. Print the sum of the numbers in the list.
4. Declare a variable `my_string` and assign it a string. Convert the string to uppercase and print the result. Declare a variable `num` and assign it an integer value. Use a loop to print the numbers from 1 to `num` (inclusive).
5. Declare a variable `my_dict` and assign it a dictionary with at least 3 key-value pairs. Print the keys and values of the dictionary using a loop.
6. Declare a variable `x` and assign it an integer value.
7. Declare another variable `y` and assign it the value of `x` squared. Print the value of `y`.
8. Declare a variable `my_set` and assign it a set of numbers. Check if a specific number is in the set and print the result.
9. Declare a variable `my_list` and assign it a list of strings. Use a loop to print each string in the list with an exclamation mark at the end.
10. Declare a variable `my_tuple` and assign it a tuple of strings. Use a loop to print each string in the tuple in reverse order.

## Exercises and Solution

1. Declare a variable `message` and assign it a string. Print the length of the string.

```
message = "Hello, world!"  
print(len(message))
```

2. Declare two variables, `num1` and `num2`, and assign them integer values. Print the result of adding, subtracting, multiplying, and dividing the two variables.

```
num1 = 10  
num2 = 5  
print(num1 + num2)  
print(num1 - num2)  
print(num1 * num2)  
print(num1 / num2)
```

3. Declare a variable `my_list` and assign it a list of numbers. Print the sum of the numbers in the list.

```
my_list = [1, 2, 3, 4, 5]
```

```
sum = 0
```

```
for num in my_list:
```

```
    sum += num
```

```
print(sum)
```

4. Declare a variable `my_string` and assign it a string. Convert the string to uppercase and print the result. Declare a variable `num` and assign it an integer value. Use a loop to print the numbers from 1 to `num` (inclusive).

```
my_string = "hello, world!"
```

```
print(my_string.upper())
```

5. Declare a variable `my_dict` and assign it a dictionary with at least 3 key-value pairs. Print the keys and values of the dictionary using a loop.

```
num = 5
```

```
for i in range(1, num+1):
```

```
    print(i)
```

6. Declare a variable `x` and assign it an integer value.

```
my_dict = {"name": "John", "age": 30, "city": "New York"}
```

```
for key, value in my_dict.items():
```

```
    print(key, value)
```

7. Declare another variable `y` and assign it the value of `x` squared. Print the value of `y`.

```
x = 5
```

```
y = x ** 2
```

```
print(y)
```

8. Declare a variable `my_set` and assign it a set of numbers. Check if a specific number is in the set and print the result.

```
my_set = {1, 2, 3, 4, 5}
```

```
print(3 in my_set)
```

9. Declare a variable `my_list` and assign it a list of strings. Use a loop to print each string in the list with an exclamation mark at the end.

```
my_list = ["apple", "banana", "orange"]
```

```
for fruit in my_list:
```

```
print(fruit + "!")
```

10. Declare a variable `my_tuple` and assign it a tuple of strings. Use a loop to print each string in the tuple in reverse order.

```
my_tuple = ("apple", "banana", "orange")
```

```
for i in range(len(my_tuple)-1, -1, -1):
```

```
    print(my_tuple[i])
```