Python for Everbody course - Task Sheet 1

**Variables**

1. Write a Python program to swap the values of two variables.
2. Write a Python program that converts temperatures from Celsius to Fahrenheit. The formula is F = C \* 9/5 + 32.
3. Write a Python program to calculate the area of a rectangle given its width and height.
4. Write a Python program that takes a user's age and prints whether they are a minor (under 18), an adult (18-65), or a senior (65+).
5. Write a Python program to find the volume of a cylinder given its radius and height. Use the formula V = πr²h (use 3.14159 for π).

**Functions**

1. Write a function that takes two numbers as arguments and returns their sum.
2. Write a function that takes a list of numbers and returns the largest number in the list.
3. Write a function that checks if a given string is a palindrome (reads the same forwards and backwards).
4. Write a function that takes a number as input and returns True if the number is prime, otherwise False.
5. Write a function that takes a list of strings and returns a new list with each string capitalized.

**Loops**

1. Write a Python program to print the first 10 natural numbers using a for loop.
2. Write a Python program that prints all the even numbers between 1 and 50 using a while loop.
3. Write a Python program to calculate the factorial of a number using a for loop.
4. Write a Python program that takes a list of numbers and prints the sum of all the numbers using a loop.
5. Write a Python program to print the Fibonacci sequence up to n terms using a for loop.

**Strings**

1. Write a Python program to count the number of vowels in a given string.
2. Write a Python program to reverse a given string.
3. Write a Python program to find the first non-repeating character in a given string.
4. Write a Python program to check if two strings are anagrams of each other.
5. Write a Python program to replace all occurrences of a specified substring in a given string with another substring.

**Dictionaries**

1. Write a Python program to create a dictionary from two lists, one of keys and one of values.
2. Write a Python program to merge two dictionaries.
3. Write a Python program to print all the keys and values in a dictionary.
4. Write a Python program to find the key of the maximum value in a dictionary.
5. Write a Python program to count the frequency of each character in a given string using a dictionary.

**Tuples**

1. Write a Python program to create a tuple with different data types.
2. Write a Python program to find the length of a tuple.
3. Write a Python program to convert a tuple to a string.
4. Write a Python program to find the index of an item in a tuple.
5. Write a Python program to remove an item from a tuple.