

****Python Functions Assignment****

****Objective:****

To practice creating and using functions in Python to perform a variety of tasks.

****Task 1: Greet the User****

Write a function called `greet_user` that takes a user's name as an argument and prints a greeting message.

****Example:****

```
1  def greet_user(name):
2      # Your code here
3      ...
4
5  greet_user("Alice") # Output: Hello, Alice! Welcome!
6
```

****Task 2: Calculate the Area of a Rectangle****

Create a function called `calculate_area` that takes two arguments, `length` and `width`, and returns the area of a rectangle.

****Example:****

```
1  def calculate_area(length, width):
2      # Your code here
3      ...
4
5  area = calculate_area(5, 10)
6  print(area) # Output: 50
7
8
```

****Task 3: Check if a Number is Even or Odd****

Write a function named `is_even` that takes a single integer as an argument and returns `True` if the number is even, and `False` if it's odd.

****Example:****

```

1  def is_even(number):
2      # Your code here
3      ...
4
5  print(is_even(4)) # Output: True
6  print(is_even(7)) # Output: False
7
8

```

Task 4: Convert Temperature from Celsius to Fahrenheit

Create a function called `celsius_to_fahrenheit` that converts a temperature given in Celsius to Fahrenheit. The formula is:

$$[\text{Fahrenheit}] = \left([\text{Celsius}] \times \frac{9}{5} \right) + 32$$

Example:

```

1  def celsius_to_fahrenheit(celsius):
2      # Your code here
3      ...
4
5  temp_f = celsius_to_fahrenheit(25)
6  print(temp_f) # Output: 77.0
7

```

Task 5: Find the Largest Number in a List

Write a function named `find_largest` that takes a list of numbers and returns the largest number.

Example:

```

1  def find_largest(numbers):
2      # Your code here
3      ...
4
5  largest = find_largest([3, 7, 2, 5, 8])
6  print(largest) # Output: 8
7

```

Task 6: Print a Multiplication Table

Create a function called `print_table` that takes a number as an argument and prints the multiplication table for that number up to 10.

Example:

```
1 def print_table(number):
2     # Your code here
3     ...
4
5 print_table(5)
6 # Output:
7 # 5 x 1 = 5
8 # 5 x 2 = 10
9 # ...
10 # 5 x 10 = 50
```

Task 7: Simple Calculator

Expand on the calculator task by creating a function `simple_calculator` that can handle addition, subtraction, multiplication, and division as in the previous task.

Instructions:

1. **Define each function** according to the task description.
2. **Test your functions** with different inputs to ensure they work correctly.
3. **Comment your code** to explain what each part does.
4. **Submit your assignment** with all functions in a single Python file.
