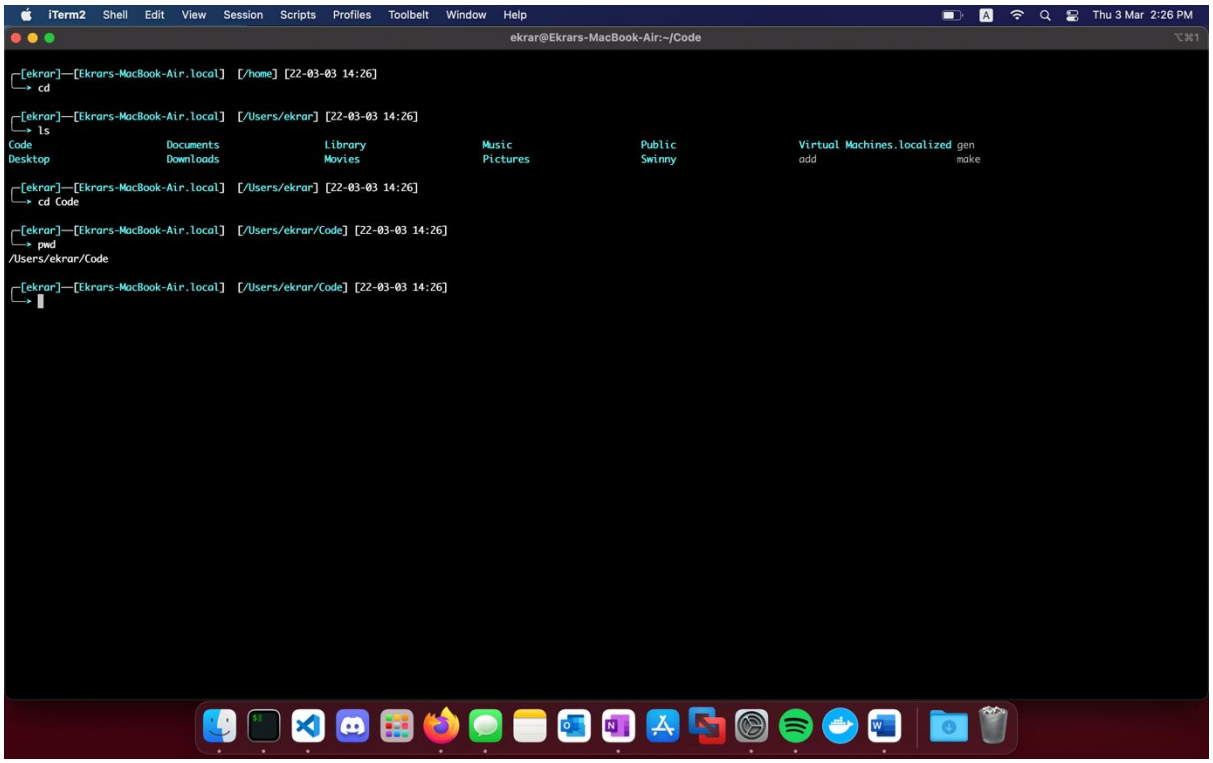
1.1P: Preparing for OOP – Answer Sheet

1. Explain the following terminal instructions:
    a. cd: changes directory
    b. ls: lists all the files in the current directory
    c. pwd: prints the name of the working directory



2. Consider the following kinds of information, and suggest the most appropriate data type to store or represent each:

Information	**Suggested Data Type**
A person's name	String
A person's age in years	Integer
A phone number	Integer
A temperature in Celsius	Float
The average age of a group of people	Array
Whether a person has eaten lunch	Boolean

3. Aside from the examples already given, come up with an example of information that could be stored as:

Data type	Suggested Information
String	State Name
Integer	Number of Pizza Slices
Float	Average Rainfall this Year
Boolean	Whether I eat like Pizza

4. Fill out the following table, evaluating the value of each expression and identifying the data type the value is most likely to be:

Expression	Given	Value	Data Type
`5`		5	Integer
`True`		True	Boolean
`a`	`a = 2.5`	2.5	Float
`1 + 2 * 3`		7	Integer
`a and False`	`a = True`	False	Boolean
`a or False`	`a = True`	True	Boolean
`a + b`	`a = 1` `b = 2`	3	Integer
`2 * a`	`a = 3`	6	Integer
`a * 2 + b`	`a = 1.5` `b = 2`	5	Integer
`a + 2 * b`	`a = 1.5` `b = 2`	5.5	Float

`(a + b) * c`	`a = 1`
	`b = 1`
	`c = 5`
		10	Integer

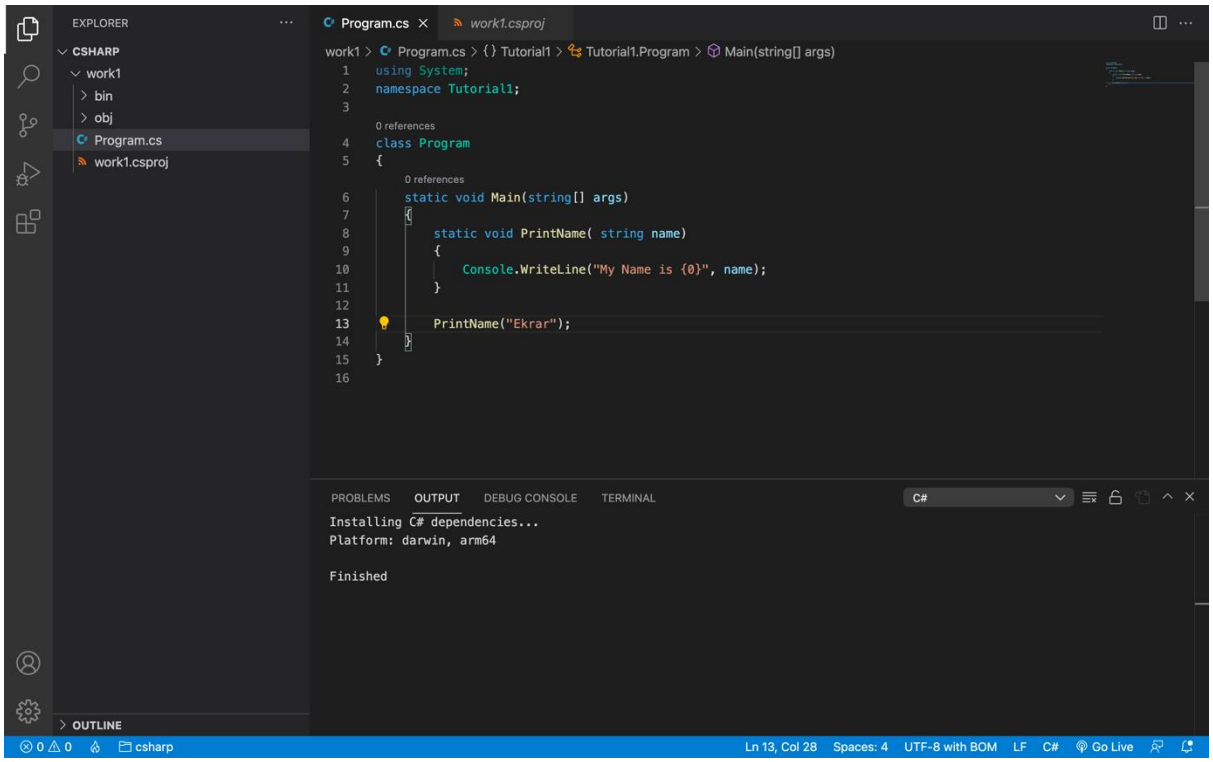
`"Fred" + " Smith"`		Fred Smith	String
`a + " Smith"`	`a = "Wilma"`	Wilma Smith	String

5. Explain the difference between **declaring** and **initialising** a variable.

The difference between the two is declaration only tells which data type the variable belongs to but initialization of a variable also assigns it a value.

6. Explain the term **parameter**. Write some code that demonstrates a simple of use of a parameter.

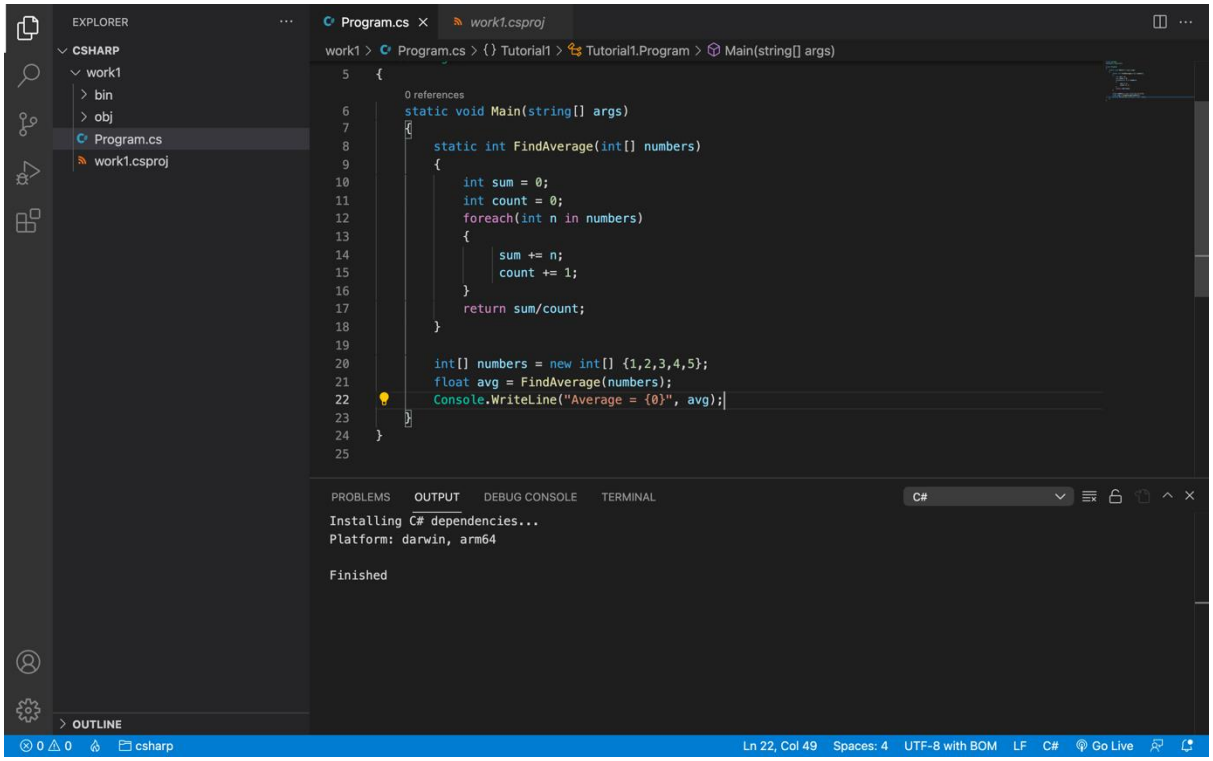
A parameter is a kind of variable that the function takes in as an input.



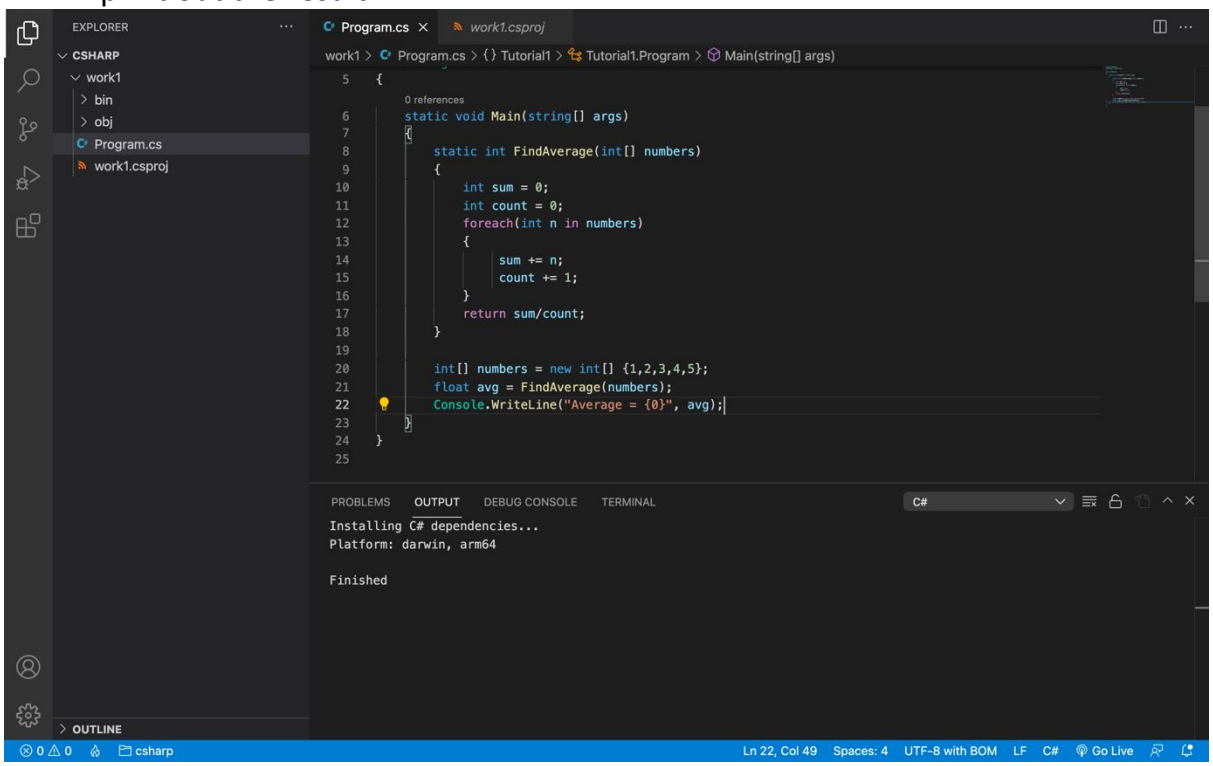
7. Using an example, describe the term **scope**.

Scope is a boundary in programming languages where variables can be accessed or referenced

8. In any procedural language you like, write a function called Average, which accepts an array of integers and returns the average of those integers.

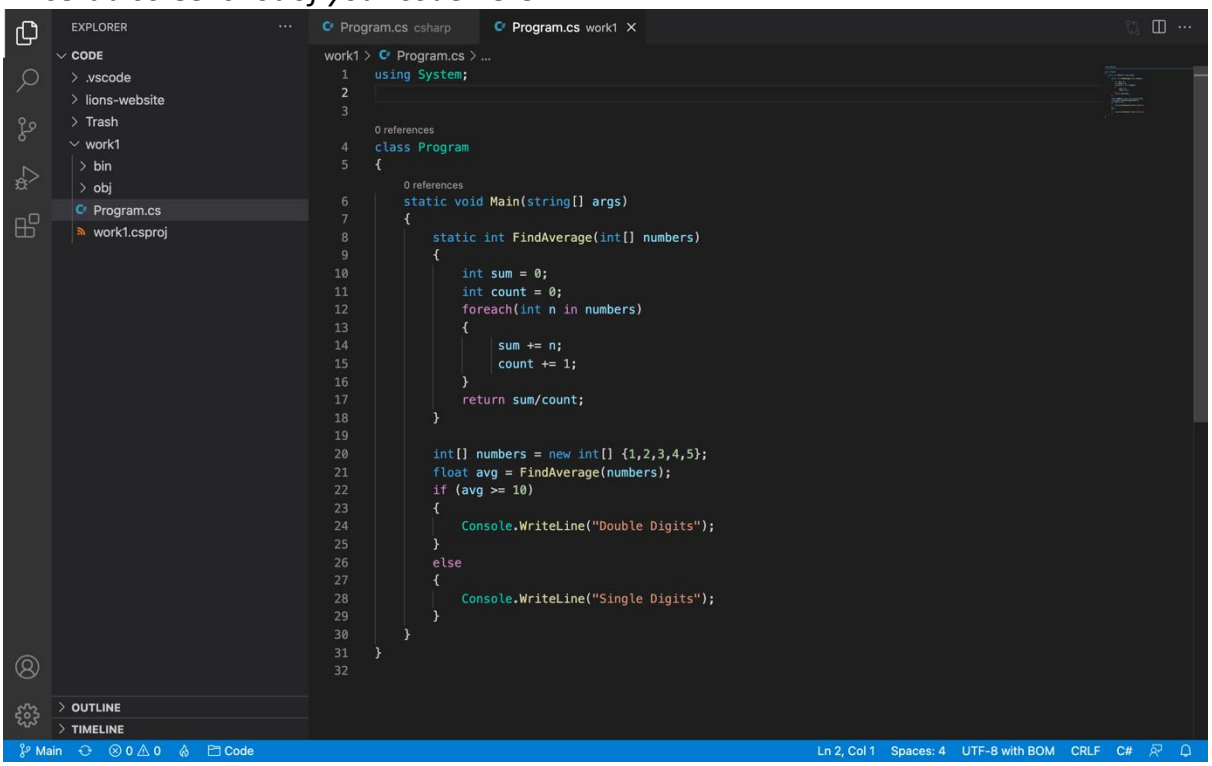


9. In the same language, write the code you would need to call that function and print out the result.



10. To the code from 9, add code to print the message “Double digits” if the average is above 10. Otherwise, print the message “Single digits”.

<insert a screenshot of your code here>



<insert a screenshot of your whole programming here>