1.1P: Preparing for OOP – Answer Sheet

1. Explain the following terminal instructions:
    a. cd: ‘change directory’ – changes the current directory you are working from
    b. ls: ‘list fies’ – this will list all the current files in the current directory.
    c. pwd: ‘print working directory’ – print name of current 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	Int
A phone number	String
A temperature in Celsius	Float
The average age of a group of people	Float
Whether a person has eaten lunch	Bool

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

Data type	Suggested Information
String	A street name
Integer	Street number
Float	Someone’s exact height
Boolean	Is a playing card upside down

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	Int
`True`			bool
`a`	`a = 2.5`	2.5	Float
`1 + 2 * 3`		7	Int
`a and False`	`a = True`	False	Bool
`a or False`	`a = True`	True	Bool
`a + b`	`a = 1` `b = 2`	3	Int
`2 * a`	`a = 3`	6	Int
`a * 2 + b`	`a = 1.5` `b = 2`	5	Float
`a + 2 * b`	`a = 1.5` `b = 2`	5.5	Float

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

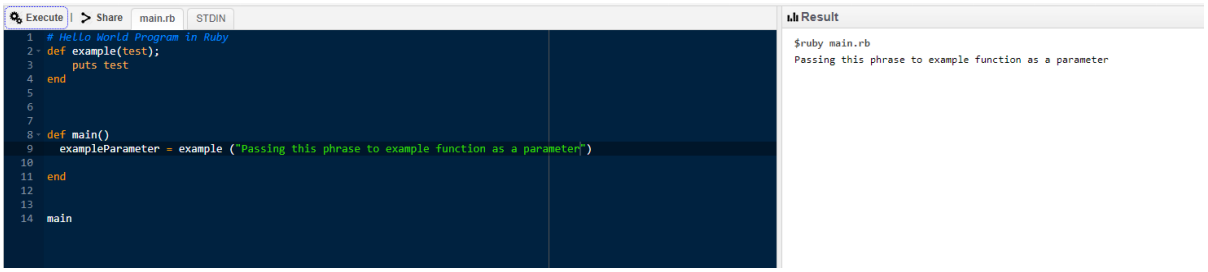
`"Fred" + " Smith"`		Fred smith	String
`a + " Smith"`	`a = "Wilma"`	Wilma smith	String

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

The difference between the two is that declaring means creating or stating there is a variable where as initialising it means to give that variable a value.

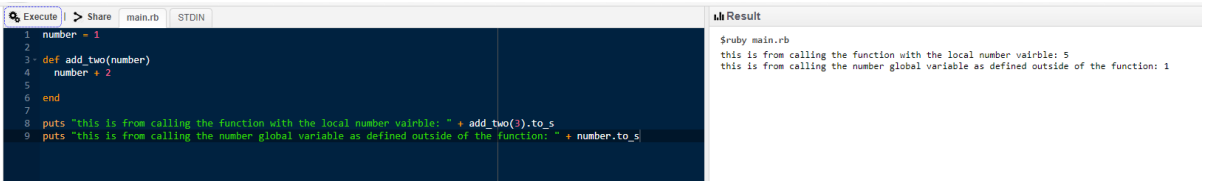
6. Explain the term **parameter**. Write some code that demonstrates a simple of use of a parameter.

A parameter is a special variable that is passed between functions or procedures



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

Scope is the visibility that the variable has in a program. This can be global (defined outside of a function group) or local (defined within)



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”.