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## Different between Console , Shell ,Command line and Terminal

To simplify the different between those three we can say that basically there is two method

GUI and CMDLI , in the GUI method we can see the screens and the instruction are generally given using the mouse cursor for example : when we point the mouse cursor to a file and click on it this is will be an instruction to open that file, so basically we are given the instruction to the system using the GUI method.

In the CMDLI we interact with our system using the command , based on the command we use the output will be displayed , so in that case we need some sort of interface in which we can write our commands and this particular interface in provided by the terminal , so basically the terminal is an interface provided by the system so that we can write the commands or interact with the command.

This is all about the different between the command line and terminal, now what is the shell

Shell is the actual program that takes the commands as an input and give us the output , and whenever the terminal is initiated a shell is also loaded. Consoles is the combination of monitor and the keyboard which mean that we can't interact with GUI we only have a black screen and a lines of commands this is the console.

## Main

Main function in all programming language is the starting point for the program execution. And it's controlling the execution progress by directing the compiler line by line.

## Variable naming

Before we know what is the rules to declare a variable we need to know what is the variable , variable is let's say an empty box in the memory that hold your data , and each variable in your programmer should have a different name( this also can be known as identifier) than the other variables and there is some rules to for the naming part we will go through it :

Rules of naming variables:

- A variable name can have only a letter (both uppercase and lowercase letters) and it's good if we write all variables in lower case so we don't mix them with the classes.
- We can use just the under score
- We can add a digit but make sure not to use it in the beginning of the name
- The first letter in the name can be a letter or an underscore

## Data types

A data type, in programming, is a classification that helps the programmer to decide the type of the data that he want's to variables to store , and this will benefit us when we take an input from the user to make sure that all the data that we will receive from the user is going to suit our program.

And there is a lot of types that we can talk about :

- Integer : used with all the real numbers
- String : used with all the text
- Double : used with all the decimal numbers
- Boolean : used with logic (True or false)
- Lists : it's an array of element , or it's can be a container for a collection of objects.
- Map: like a list but with a key and value and it's similar to dictionary in python, used to store data by the key and the key pointing to it's value.

## String interpolation

String interpolation allows users to include variable references directly in processed string literal And it's used a lot when we develop a website we call some variable from the database by php or any language that you use and call them in the html file to be shown in the user interface