***Introduction***

**Why to learn programing?**

Lots of people get into programming because they like challenge, or excited by computers or want to build a career by creating web sites, mobile apps or desktop programs. Let’s assume that you are not one of those people and you are asking yourself why I should learn programming.

**“Why should you learn reading?”**

Asking why to learn programing is almost the same as asking why learn reading and they both have the same answer reading is essential skill that you must acquire in order to learn almost anything else and in our modern world learning programming is not much of a different it’s becoming an essential skill that everyone should at least be aware of some of its basics.

**“You have an idea for the next big innovation? Great. Can you bring it to life?”**

Everyone has ideas! Only a selected few can make them happen. The ability to code separates those who merely have an idea from those who can make their ideas a reality.

If you want to be a thinker and innovator that who can bring ideas to life, you must learn how to program.

**“It’s fun”**

Throughout my academic course I had studied lots of subjects like math, physics, mechanics, and control more and more. Without any doubt! Programming is the most interested subject of them. It’s fun and challengeable on so many levels.

**So are you up to the challenge?**

**What does it take to master programming?**

Programming is like a weapon. Any weapon you need two things to shot by it, knowledge and practice.  
 You need to know how to implement your idea and describe it, in a way that the computer understand and before that you need to think in a systematic way to scale your ideas and solution, you need to think like a computer.

“In another word, in order to master programming you need to Practice, practice and practice”

**“Programming is just the start!”**

Learning how to program is just the start. the key to the endless road of problem solving, you will use your programming powers to solve very sophisticated real world problem that encounter engineers ,scientist and even NASA astronaut in there researches.

**“Before we start”**

**What is a programming language?**

A **programming language** is a special language that [programmers](http://www.computerhope.com/jargon/p/progmmer.htm) use to develop software programs, [scripts](http://www.computerhope.com/jargon/s/script.htm), or other sets of instructions for computers to execute.

Simply it’s a set of commands that used to control computer resources and yet are easy to understand by humans. Language like C, C++, Java, Python, PHP are all an example of a programming language.

An example of a computer command written in C++

Ex:

PrintOnScreen (“Hello”);

This is an example of a function call command which print “hello” on your computer screen.

**“So many choices!”**

There are hundreds of programming languages that you can learn. In our study we will use C++ as our main language its very powerful and flexible yet easy to understand language, it’s the most usable language in problem solving which is our main concern in this course.

**“Did you hear about Mine Craft?”**

Any program consist of a set of consecutive commands written by a programming language that computers can understand and execute.

-Link and some photos-

<https://studio.code.org/s/mc/stage/1/puzzle/1>

“In the link included there is a simple game that you can build and try easily and there is a video describing what you should do”

Hint “In the next chapter we will setup the software that we will write code with and run our very own program! **Exciting**? Let’s get started…”