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Why Learn Programming?



Who am I?



Patrick Clarke

Software Engineer

- Bachelor of Science in Computing (Major: Computer Science) from the University of Technology
- Started Programming since Grade 9
- Specialize in creating Websites
- Started Programming since I wanted to create games

Why Learn Programming?



Programming is Problem Solving

At its core, being a good programmer is being a good problem solver, regardless of the programming language you use.

Programming is one of the tools that you can use to solve a problem that you or someone else is having.

Programming is Creation

Programming can also be used to create works of art, whether it be images, audio, games or any other forms of expression.

It is a means for which you can express artwork, tell a story (example through a game), or help other people understand your point of view on something.

Programming is Business

Programming is one of the few skills that allows you to create a product from start to finish that is accessible by many people at a low cost.

Creating something of value and having it accessible to many people is good for businesses. Which can be someone else's business, or your own.

Examples of what can you do as a Programmer?

Website Development

The focus would be on creating websites. You would either work on the design that the user sees when they visit your website, or you would be working on how the website handles user interaction, eg. Creating a user account.

Robotics Programming

Normally involves programming the hardware of the robot you are creating, and also how it should learn and interact with the environment around it.
eg. Programming a robot vacuum

Game Development

Game Development is a broad field and not solely programming.
The main programming in game development is done inside a game engine, which handles all user interactions
eg. When a player clicks the mouse, show this image and play this game audio.

System Administration

System administration is normally to keep the computer systems of an organization operational. Programming can be used to automate common tasks that are repetitive and time consuming.
eg. Writing a 'script' to install common programs onto a new computer

Disclaimer: There are many other branches of programming, so most people specialize

Future Prospects for Programmers

Here are some predictions

- Jamaica will continue to put more emphasis on educating people in STEM related fields.
- The number of jobs in the technology industry will fluctuate but have an upwards trend.
- There will be many more programmers in the future, which means more competition for good jobs

What's in store for us?


- Artificial Intelligence will be better able to assist programmers with problem solving and accomplishing tasks.
- With more better technology becoming more widely available, people will be able to create more varied and useful programs, which they can use to create sources of income for themselves.

Future of Programming

There will always be demand for good programmers who are able to solve problems, in particular those who are able to solve the problems of a business, or the problems of the businesses clients.



How can you
get started with
Programming



**The Main Challenge
becoming a programmer
is....**

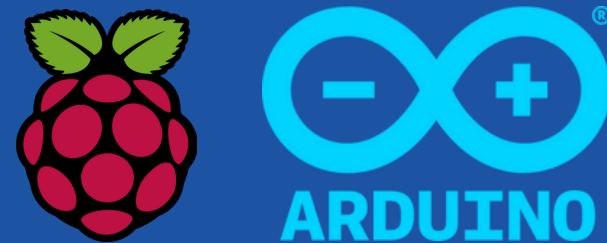
**Decide what you want to
create!**

Website Programming



Front End: HTML, CSS, Javascript
Back End: PHP, NodeJS, .NET
Database: MySQL, Postgres, SQLite

Robotics Programming



Raspberry Pi, Arduino

Game Development



Game Engine: (Unreal Engine, Godot, Unity, Pygame)
3D Modelling: Blender,

System Administration



Linux, Bash, Powershell, and more

Essential Tools

- Version Control: Git
- IDE or Code Editor: VSCode, Sublime Text, Visual Studio

Mobile App Programmer



Flutter, React Native, Swift, Kotlin

AI & Machine Learning



Tensorflow, Scikit Learn, Pytorch, and more

Additional Learning

- Programming Language Paradigms
- Data Structures and Algorithms
- Computer Science Concepts

Note: You do not have to learn everything, and many of the skills are transferable. Meaning that when you learn skills in one branch, you can apply what you have learned in another.

You do not have to learn everything, and it is okay to change course in what you are learning.

You will understand more things as you continue learning

Tip: You can use AI like ChatGPT and Bing Copilot to answer your questions and to clarify confusion

Example Questions:

- What is the difference between a high-level and low-level programming language?
- Why is Object Oriented Programming preferred to other programming paradigms when making games? Please give an example of a player class and enemy class
- What are the skills needed to become a high earning programmer or software developer?

Thank you for Listening.
Please make the most of
your time at camp! 😊

Any Questions?

Please Post them in the chat

Contact me:

Email: mailbox.pclarke@gmail.com



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