INTRODUCTION TO PROGRAMMING

Let's Begin Our Coding Journey Here

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EDUCATION:

School: BAF Shaheen College Kurmitola
College: BAF Shaheen College Dhaka

EXPERIENCE:

Practicing programming, web development, graphics design and 3D modeling since 2019

HOBBIES:




How to start??

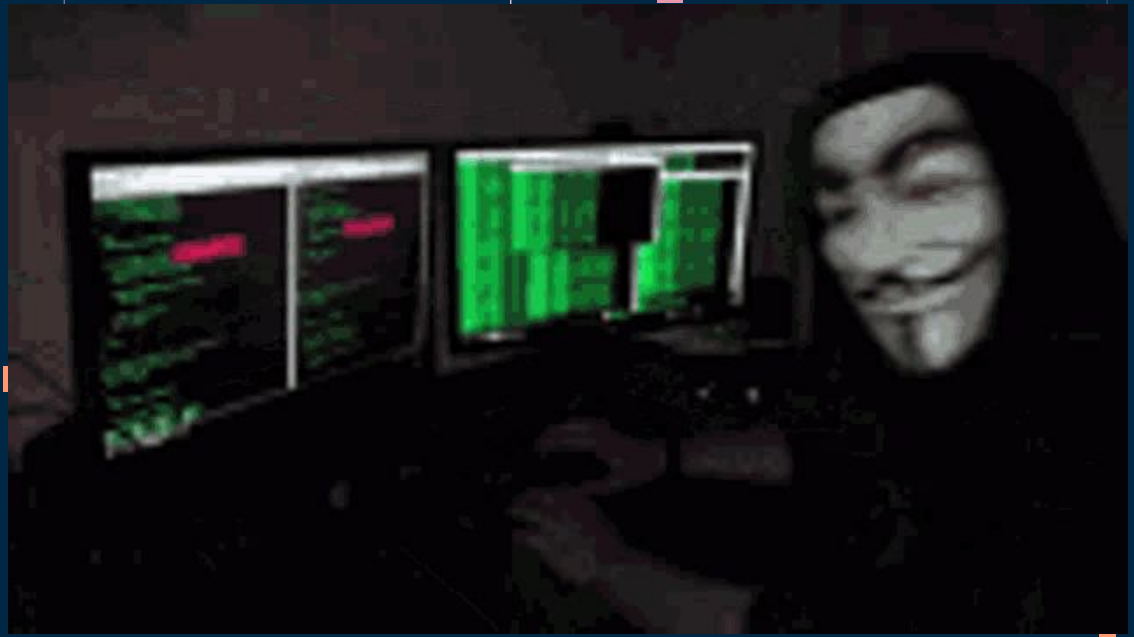
Where to start?

compiler??

Which language?

Where I
can learn?

IDE what?

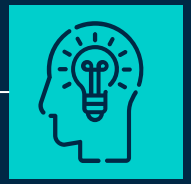


WHAT IS PROGRAMMING??

WHAT IS PROGRAMMING?

"Programming is the art of creating instructions that tell computers what to do"

THINGS YOU NEED TO START



01

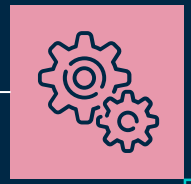
BASIC CONCEPT OF PROGRAMMING

This provides the foundation for understanding how code works

02

TEXT EDITOR OR IDE

This is for writing and debugging your codes



03

COMPILER & INTERPRETER

These are used for translating programming language into machine code or bytecode

BASIC CONCEPT

The fundamental concepts
of programming

01

BASIC CONCEPTS

» Here are some basic concepts of programming:

- Programming Language
- Operators
- Variables
- Loops
- Arrays
- Conditional Statement
- Functions
- Objects
- String
- Input & Output

TEXT EDITOR (IDE)

Integrated Development Environment

02

TEXT EDITOR or IDE

- IDE stands for “Introduce Integrated Development Environment”
- It provides features such as syntax highlighting, auto-completion, code debugging, and version control integration
- Some of the most widely used IDEs are:
  - Visual Studio Code
  - Atom
  - Sublime Text
  - PyCharm
  - NetBeans
  - Notepad++

COMPILER & INTERPRETER

03

Translating codes into
machine code

COMPILER & INTERPRETER

- A compiler is a program that translates the entire source code of a program into executable machine code
- An interpreter reads and executes the source code line by line, translating each line into machine code and executing it immediately.
- Compilers typically produce faster and more efficient code, while interpreters offer faster feedback and easier debugging

PROPER UNDERSTANDING

COMPILER

- Translates full source code into machine code at a time.
- Produces faster and more efficient code.
- Produces an executable file that can be run multiple times without further compilation.
- It is platform-specific and difficult to debug

INTERPRETER

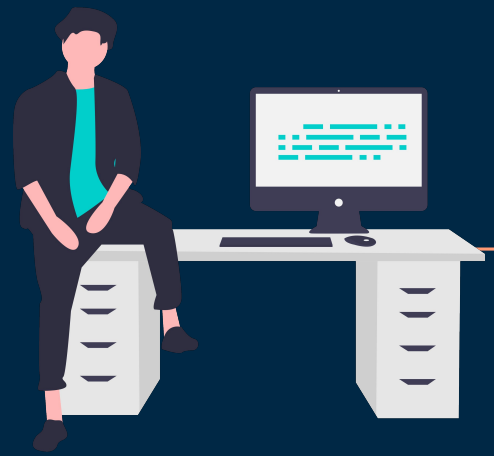
- Translates source code line by line into machine code and executes it immediately.
- Provides faster feedback and easier debugging.
- It is slower than Compiler

PROGRAMMING LANGUAGES

PROGRAMMING LANGUAGES

» Programming languages are formal languages that are designed to communicate instructions to a computer.

Some of the popular languages are: C/C++, C#, Python, Java, JavaScript, PHP, Ruby, Rust, Kotlin, Swift...



“HELLO WORLD” PROGRAM IN VARIOUS LANGUAGES

C

```c
#include <stdio.h>

int main() {
    printf("Hello, World!\n");
    return 0;
}
```

JavaScript

```javascript
console.log("Hello, World!");
```

PHP

```php
<?php
echo "Hello, World!";
?>
```

Python

```python
print("Hello, World!")
```

C++

```cpp
#include <iostream>

int main() {
    std::cout << "Hello, World!" << std::endl;
    return 0;
}
```

Java

```java
public class HelloWorld {
    public static void main(String[] args) {
        System.out.println("Hello, World!");
    }
}
```

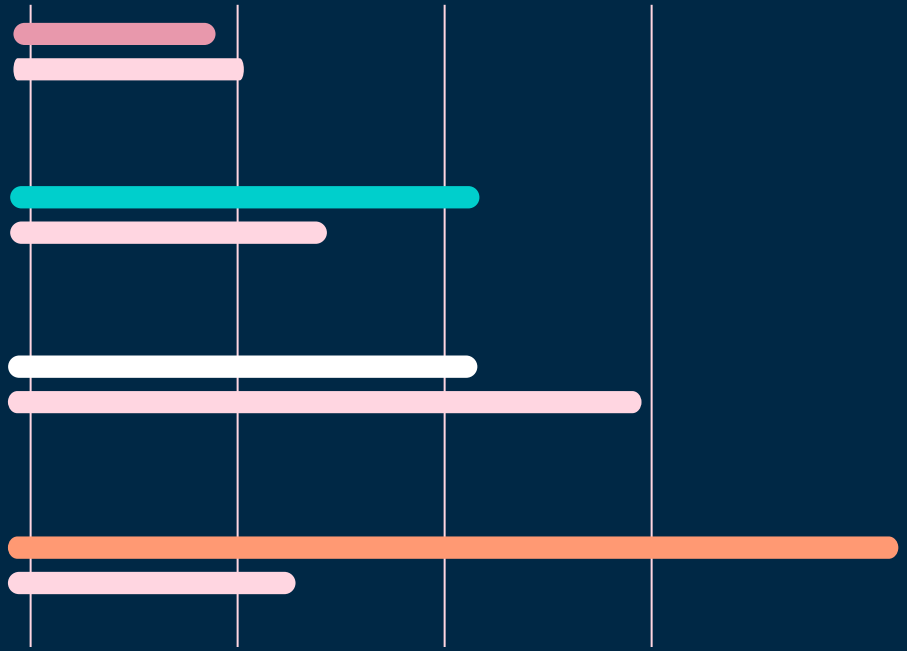
TYPES OF LANGUAGES

LOW-LEVEL LANGUAGE
Assembly language and machine language

MID-LEVEL LANGUAGE
System programming languages like C & C++

HIGH-LEVEL LANGUAGE
Python, Java, Ruby

VERY HIGH-LEVEL LANGUAGE
SQL, MATLAB, R



Comparing the Speeds of Different Programming Languages

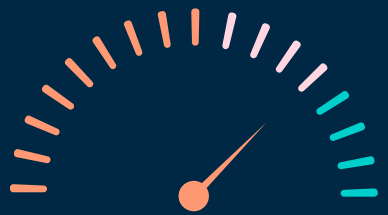
JavaScript, Python, PHP...

Not That Fast

Java, C#, Pascal...

Medium Fast

C, C++, Rust, Fortran...



Fastest

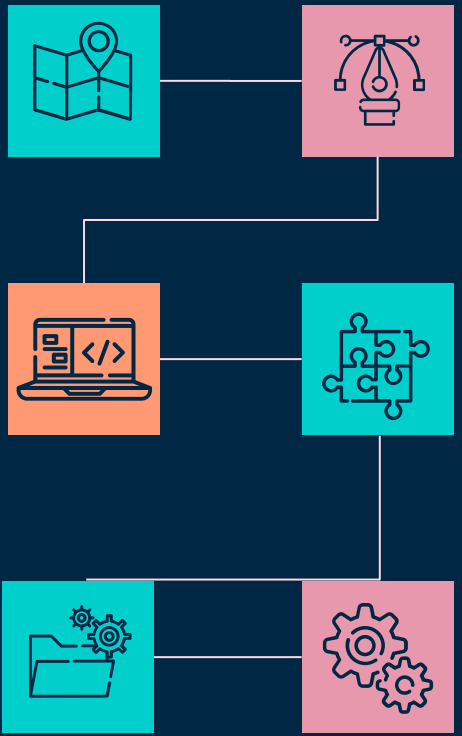
PHASES OF PROGRAMMING

PLANNING

The project requirements are identified, analyzed, and documented

DESIGNING

Creating a high-level architecture, detailed system design, and interface design



DEVELOPMENT

The program is actually built using a programming language and development tools.

TESTING

The program is tested to ensure it meets the requirements and specifications

DEPLOYMENT

The program is installed and configured on the target environment

MAINTENANCE

The program is updated and maintained over time

SO, CAN YOU GUESS THE DIFFERENCE BETWEEN PROGRAMMING AND CODING?

A LITTLE DISCUSSION ON VERSION CONTROL

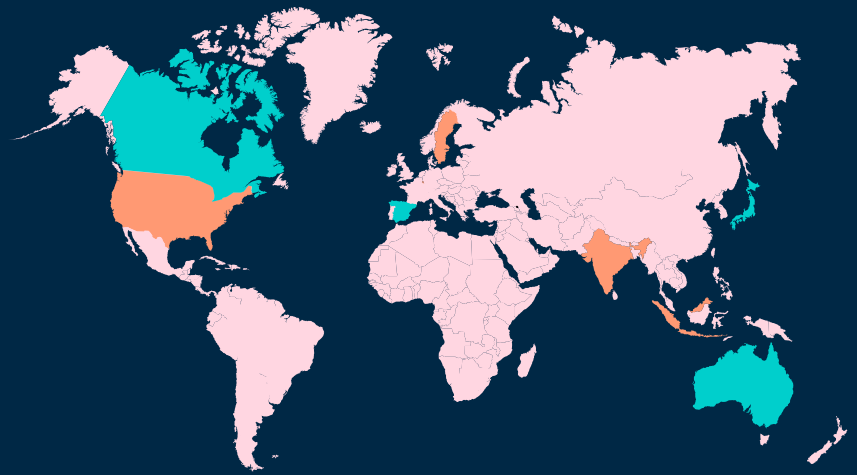
CAREER FOR PROGRAMMERS

28,000,000

There are about 28 million programmers in the world. The number is expected to increase to 28.7 million in 2024

ANALYSIS

The Most Popular Programming Languages in the World Among Developers in 2022.



POTENTIAL CAREER OPPORTUNITIES FOR PROGRAMMERS

Software Application Developer
$104,724 per year

Web Developer
$75,878 per year

Computer Systems Engineer
$73,678 per year

Database Administrator
$96,710 per year

Network System Administrator
$80,286 per year

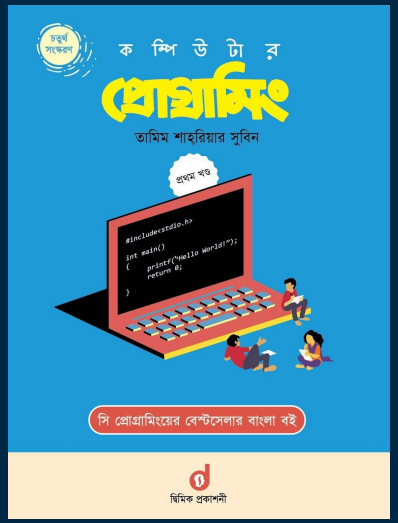
Business Intelligence Analyst
$87,751 per year

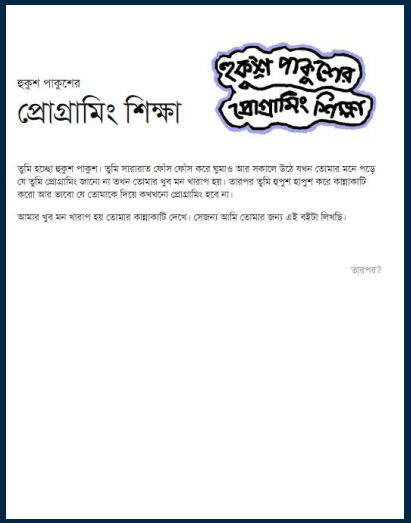
“Any fool can write code that a computer can understand. Good programmers write code that humans can understand.”

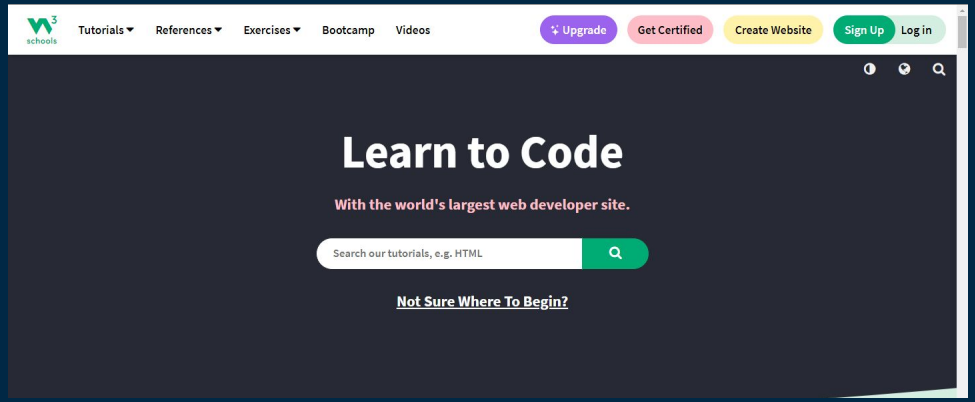
– Martin Fowler

THANKS FOR ATTENDING

Need Some Resources To Start?






Tutorials
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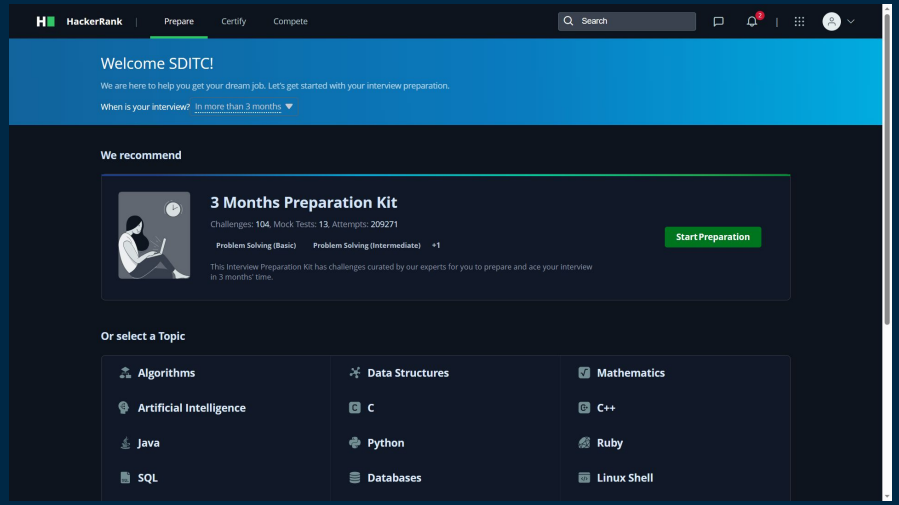
Learn to Code
With the world's largest web developer site.
Search our tutorials, e.g. HTML
Not Sure Where To Begin?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We are here to help you get your dream job. Let's get started with your interview preparation.
When is your interview? In more than 3 months
We recommend
3 Months Preparation Kit
Challenges: 104, Mock Tests: 13, Attempts: 209271
Problem Solving (Basic)
Problem Solving (Intermediate)
+1
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This Interview Preparation Kit has challenges curated by our experts for you to prepare and ace your interview in 3 months' time.
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Databases
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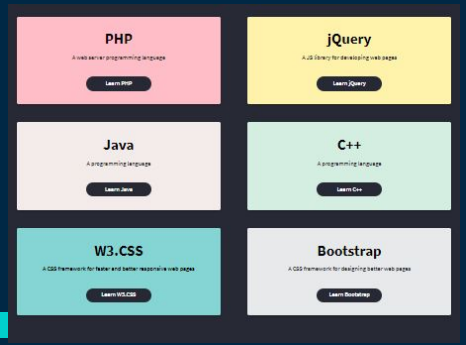
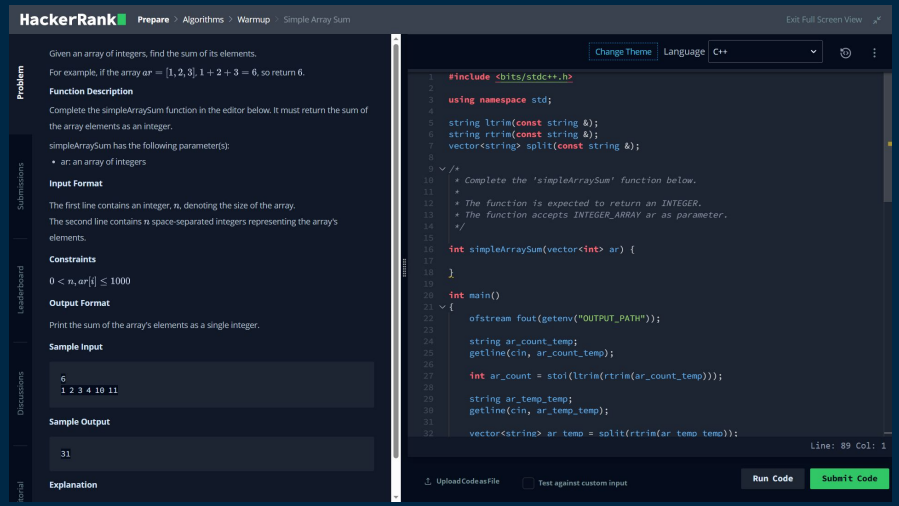
Exercises and Quizzes
Test your skills!
Exercises
Quizzes


schools


PHP
Learn PHP
jQuery
Learn jQuery
Java
Learn Java
C++
Learn C++
W3.CSS
Learn W3.CSS
Bootstrap
Learn Bootstrap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Simple Array Sum
Exit Full Screen View
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Editorial
Given an array of integers, find the sum of its elements.
For example, if the array $ar = [1, 2, 3]$, $1 + 2 + 3 = 6$, so return 6.
Function Description
Complete the simpleArraySum function in the editor below. It must return the sum of the array elements as an integer.
simpleArraySum has the following parameter(s):
ar: an array of integers
Input Format
The first line contains an integer, n, denoting the size of the array.
The second line contains n space-separated integers representing the array's elements.
Constraints
$0 < n, ar[i] \leq 1000$
Output Format
Print the sum of the array's elements as a single integer.
Sample Input
6
1 2 3 4 10 11
Sample Output
31
Explanation
Change Theme
Language
C++
#include <bits/stdc++.h>
using namespace std;
string ltrim(const string &);
string rtrim(const string &);
vector<string> split(const string &);
/*
* Complete the 'simpleArraySum' function below.
*
* The function is expected to return an INTEGER.
* The function accepts INTEGER_ARRAY ar as parameter.
*/
int simpleArraySum(vector<int> ar) {
}
int main()
{
ofstream fout(getenv("OUTPUT_PATH"));
string ar_count_temp;
getline(cin, ar_count_temp);
int ar_count = stoi(ltrim(rtrim(ar_count_temp)));
string ar_temp_temp;
getline(cin, ar_temp_temp);
vector<string> ar_temp = split(rtrim(ar_temp_temp));
Line: 89 Col: 1
Upload Code as File
Test against custom input
Run Code
Submit Code

QNA ROUND