Key Differences Across the Languages:

- C++ (First appeared: 1983)
- Java (First appeared: 1995)
- C# (First appeared: 2000)

Around 80% coding syntaxes are same/identical
Some Key Differences Across the Languages:

By the end of First half (Module-4) we will have only the following key differences:

1) Structure of the main() method
2) Output Statements
3) Input Statements
4) In Some Keywords
5) Constant Declaration
6) The switch/case Statement
Some Key Differences Across the Languages:

1) **Structure of the main() method**

   **In C++:**
   ```cpp
   int main() {
       /* Codes go here */
   } // End of the main()
   ```

   **In Java:**
   ```java
   class Main {
       public static void main(String[] args) {
           /* Codes go here */
       } // End of the main()
   } // End of the class
   ```

   **In C#:**
   ```csharp
   namespace HelloWorld{
   class Main {
       public static void Main(string[] args) {
           /* Codes go here */
       } // End of the Main()
   } // End of the class
   } // End of the namespace
Some Key Differences Across the Languages:

2) Output Statements

In C++:
```cpp
    cout << "Hello << " " << "World" << endl;
```

In Java:
```java
    System.out.println("Hello" + " " + "World");
```

In C#:
```csharp
    Console.WriteLine("Hello" + " " + "World");
```
Some Key Differences Across the Languages:

3) Input Statements

In C++:

```cpp
    cin >> variableName; // cin does not take spaces
    getline(cin, variableName); // getline() takes space
```

In Java:

```java
    import java.util.Scanner;
    // Needs to import the Scanner class
    Scanner scan = new Scanner (System.in);
    String name = scan.nextLine();
    int age = scan.nextInt();
```

In C#:

```csharp
    using System; // Needs to use System
    string name = Console.ReadLine();
    int age = int.Parse(Console.ReadLine());
    // Give attention here... OR
    int age = Convert.ToInt32(Console.ReadLine());
```
Some Key Differences Across the Languages:

4) In Some Keywords

In C++:
    bool isActive = true;

In Java:
    boolean isActive = true;

In C#:
    bool isActive = true;
Some Key Differences Across the Languages:

5) Constant Declaration

**Pseudocode:** Using CONSTANT Keyword.
   Ex: CONSTANT real INTEREST_RATE = 3.9

**C++:** With the #define preprocessor or const keyword:
   Ex: #define X 5;
      const int PI = 3.14;

**Java:** With the static and final keywords:
   Ex: static final int DAYS_IN_A_WEEK = 5;

**C#:** With the const keyword:
   Ex: const int X = 5;

* In all cases, the naming convention of CAPITALIZATION is recommended.
Some Key Differences Across the Languages:

6) The switch/case Statement

**C++:**
Allows to have missing break statement(s)

**Java:**
Allows to have missing break statement(s)

**C#:**
Does NOT allow to have any missing break statement
Some Key Differences Across the Languages:

More Differences will come in Function, and Class, Object and Array Declaration...

C++:

Java:

C#: