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**

KENNESAW STATE UNIVERSITY

Some Key Differences Across the Languages:

1)   Structure of the main() method

In C++:
```
    int main() {
        /* Codes go here */
    } // End of the main()
```
In Java:
```
    class Main {
    public static void main(String[] args) {
        /* Codes go here */
        } // End of the main()
    } // End of the class
```
In C#:
```
 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++:
```
cout << "Hello << " " << "World" << endl;
```

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

In C#:
```
Console.WriteLine("Hello" + " " + "World");
```

Some Key Differences Across the Languages:

3) Input Statements

In C++:
```
cin >> variableName; // cin does not take spaces
getline(cin, variableName); // getline() takes space
```

In 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#:
```
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.

KENNESAW STATE
UNIVERSITY

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#:
```