Structure of A Java Program
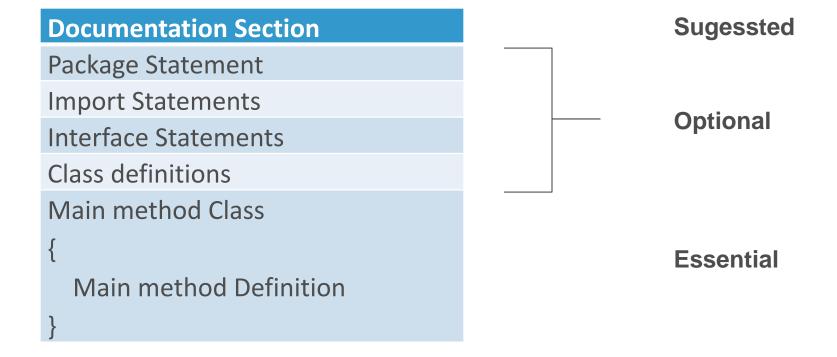
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Understand the Basics

- ✓ Class has Data Members and Member functions
- ✓ Data Members are accessed using Member functions
- ✓ Member functions may have
  - ✓ Data type declarations and Executable statements

- ✓ Java Program may contain One or More Classes
- ✓ Only one class must define the main method
- ✓ A Java program may have One or More Sections

Program Structure

Documentation Section
Package Statement
Import Statements
Interface Statements
Class definitions
Main method Class
{
Main method Definition
}

Sugessted

Optional

Essential

Documentation Section

- ✓ **Comments on each task in code is suggested. (What, Why, How)**

- ✓ **//   Single-line comments**
- ✓ **/*….*/   Multi-line comments**
- ✓ **/**….*/   For automatic generation of documents**

- ✓ **Suggested**

Package Statement

- ✓ **Package contains a set of classes**
- ✓ **First statement**
- ✓ **Declares Name of the Package**
- ✓ **Compiler verifies all the classes for the program**

- ✓ **Ex: package student;**

- ✓ **Optional**

Import Statements

- ✓ **One or more**
- ✓ **Interpreter loads all the Classes of the Package**
- ✓ **We can access all the Classes**

- ✓ **Ex: import java.lang.Math;**
  - ✓ **sqrt method can be executed**

- ✓ **Optional**

Interface Statements

- ✓ **Declares methods**
- ✓ **Definitions must be Overridden**
- ✓ **Implemented**

- ✓ **Optional**

Class definitions

✓ **One or more**

✓ **Optional**

Main method Class

Main method Class
{

    Main method Definition

}
- ✓ Only one class must have main
- ✓ Execution starts at main
- ✓ Objects creation
- ✓ Objects communications
- ✓ Program Termination
- ✓ OS passes Execution control to main
- ✓ OS receives back Execution control from main

Main method Class

```
// This code Computes Square Root of a given Number
import java.lang.Math;
class SquareRoot                                    // Main method class
{
        public static void main(String args[ ])          // Main method
        {
                double x = 5;        //        Declaration and Initialization
                double y;            //        Declaration
                y = Math.sqrt(x);   //         Computation
                System.out.println(" Square Root of " + x + "is =" + y);
        }
}
```

Save – Compile - Execute

✓ Name of the Program: SquareRoot.java

✓ Command for Compilation: javac SquareRoot.java

✓ Command for Execution: java SquareRoot

Thank you