Smart Programming : YouTube Channel

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Java Program Structure

& Explanation

=> **Steps to prepare Java First Program :-**

1. Download & Install Java Softwares

   (JDK, Editor, IDE's)

2. Create Java First Program

   2.1 Java Naming Conventions

   2.2 Structure of Java Program

   2.3 Java Program Explanation

3. Compile & Run Java Program

=> **Structure Of Java Program :-**

-> There are 5 main sections in a java program:-

1. Documentation Section

2. Package Statement

3. Import Statement

4. Interface/Class Section

-> Variables & Methods

5. Main Class Section

-> main method

1. Documentation Section :-

-> It contains the basic information about java program for eg. author's name, date of creation, version, program name, company name, client name, description etc

-> This part is OPTIONAL

-> To create documentation section we use comments

-> There are 3 types of comments :-

1. Single Line Comment (//)

2. Multi-Line Comment (/* ----- */)

3. Documentation Comment (/**-*-*-*-*-*/)

-> To provide description or metadata of the program Java introduced new feature in JDK 1.5 version i.e. "Annotation" (@---)

-> If we use comments for documentation section then at compilation phase these comments will be removed by the compiler which cannot be read further, so to resolve this problem java introduced annotation which cannot be removed at compilation or runtime.

-> If you want to provide documentation section in html form, then we can use following command in CMD :-

      javadoc FileName.java

-> javap -version (to get JDK version)

-> javap packagename.ClassName (to get the class details)

2. Package Statement :-

-> It is a group of similar type of classes or interfaces or packages

-> Advantage of package :-

1. It prevents naming conflicts of classes or interfaces

2. Easy to maintain

3. Accessability to classes or interfaces can be controlled (Security)

4. Reusability

-> Types of packages :-

1. Predefined Package (which are already created by java for eg. lang, awt, swing, util, sql etc)

2. User Defined Package (which are created by the developer)

-> Syntax : package package_name;

-> Example :-

package techdept.aa.bb;

class Employee

    {

    }

   -> Conditions for package :-

      1. Package statement should be only one in the single java file

      2. Package statement should be the first statement in java file

   -> Java provides one facility for naming convention for package that is we can create package on the same name of our domain name but in reverse order. For eg. com.smartprogramming.usajohn.techdept com.smartprogramming.usajohn.managingdept

   -> This is OPTIONAL but you should always put all the classes or interfaces in any one package

3. Import Statement :-

-> Import statements is used to make available the classes or interfaces which we are going to use in present java file

-> Syntax :

1. import packagename.subpackagename.ClassName;

2. import packagename.*;

-> if we use "import packagename.*;" only classes or interfaces will be imported, not the subpackage.

-> If we dont want to use import statement then we can directly write the packagename.ClassName to use that class.

-> This is OPTIONAL to use but mainly we use it in major level projects.

-> This line is written after the package line.

-> java.lang package is the only package which is imported by default

4. Interface/Class Section : -> Variables & Methods

-> In this section we create classes or interfaces which contains variables, methods, constructors, blocks etc.

5. Main Class Section -> main method :

-> In every project or java file there should be one main class which should contain main() method from which the execution of the program will start.
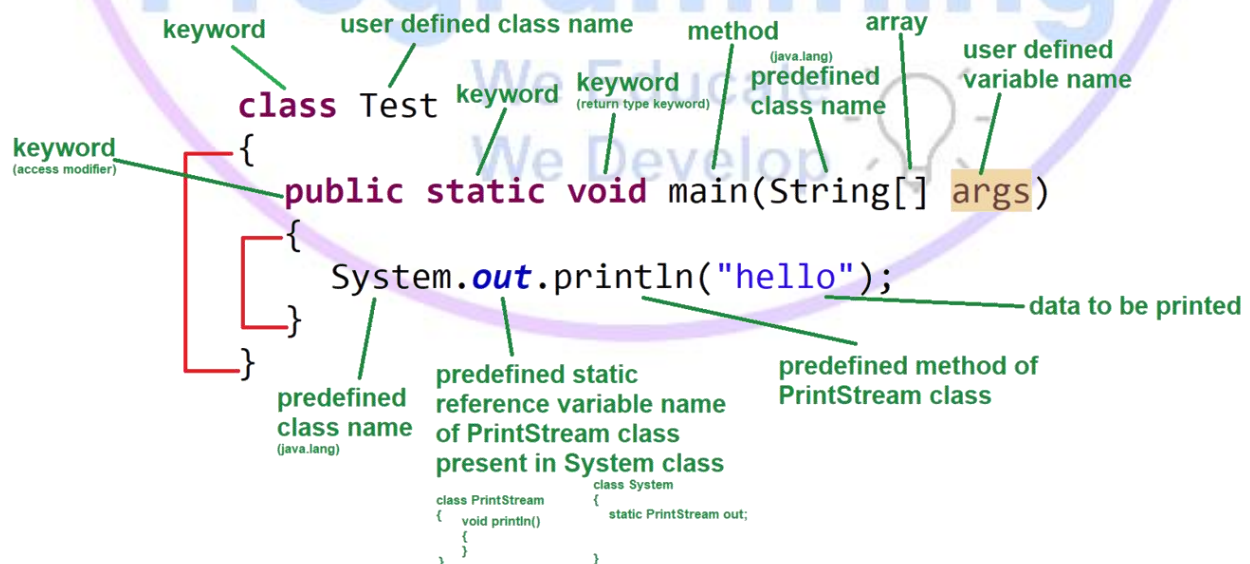
-> Syntax :

```
class Test
{
    public static void main(String[] args)
    {

    }
}
```
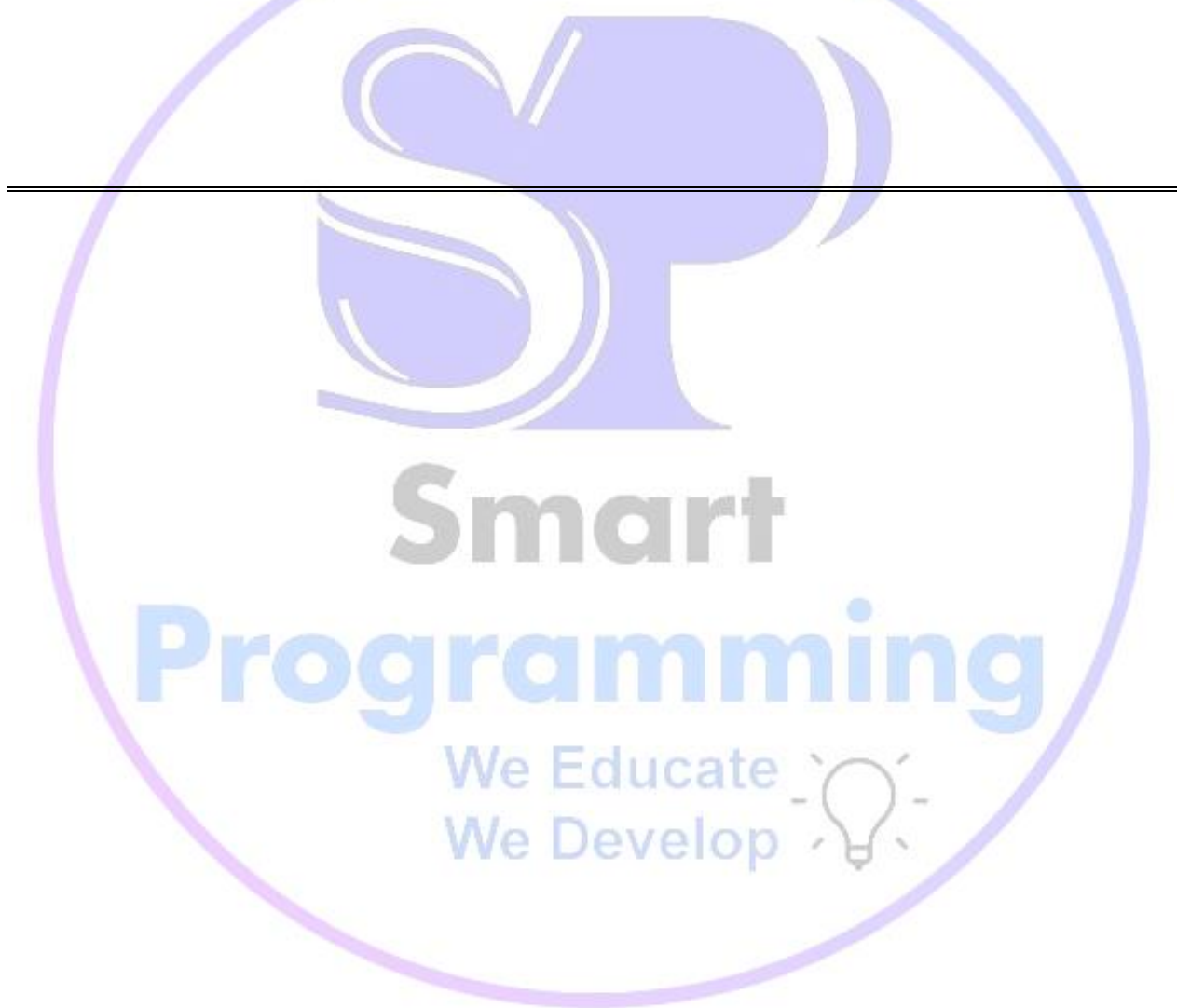
=> Java Program Explanation :-

```
class Test
{
    public static void main(Stirng[] args)
    {
        System.out.println("hello");
    }
}
```

keyword   user defined class name   method   array   user defined variable name

keyword
(access modifier)

```
class Test   keyword   keyword         predefined     user defined
                       (return type keyword)  class name    variable name
                                              (java.lang)
{
    public static void main(String[] args)
    {
        System.out.println("hello");
    }
}
```

keyword   (return type keyword)

predefined class name (java.lang)

predefined static reference variable name of PrintStream class present in System class

predefined method of PrintStream class

data to be printed

```
class PrintStream        class System
{    void println()      {   static PrintStream out;
     {                    }
     }
}
```

Interview Questions :-

=> Explanation of each and every word in simple java hello program

Company Links & Contacts

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