Practical no. 7

FS19CO042

Aim: Generate complete Javadocs for any two of the above experiments

Tool used: Editor (Notepad/Intellij IDE), JDK and JRE

Theory:

Javadoc

Javadoc is a tool which comes with JDK and it is used for generating Java code documentation in HTML format from Java source code, which requires documentation in a predefined format.

Following is a simple example where the lines inside /*….*/ are Java multi-line comments. Similarly, the line which preceeds // is Java single-line comment.

Example

```
/**
* The HelloWorld program implements an application that
* simply displays "Hello World!" to the standard output.
*
* @author  Omkar Phansopkar
* @version 1.0
* @since   2014-03-31
*/
public class HelloWorld {
   public static void main(String[] args) {
      // Prints Hello, World! on standard output.
      System.out.println("Hello World!");
   }
}
```

You can include required HTML tags inside the description part. For instance, the following example makes use of <h1>....</h1> for heading and <p> has been used for creating paragraph break −

Example

```
/**
* <h1>Hello, World!</h1>
* The HelloWorld program implements an application that
* simply displays "Hello World!" to the standard output.
* <p>
* Giving proper comments in your program makes it more
* user friendly and it is assumed as a high quality code.
*
*
* @author  Omkar Phansopkar
* @version 1.0
* @since   2014-03-31
```

```
*/
public class HelloWorld {


   public static void main(String[] args) {
      // Prints Hello, World! on standard output.
      System.out.println("Hello World!");
   }
}
```

The javadoc Tags

The javadoc tool recognizes the following tags −

Tag	Description	Syntax
@author	Adds the author of a class.	@author name-text
{@code}	Displays text in code font without interpreting the text as HTML markup or nested javadoc tags.	{@code text}
{@docRoot}	Represents the relative path to the generated document's root directory from any generated page.	{@docRoot}
@deprecated	Adds a comment indicating that this API should no longer be used.	@deprecated deprecatedtext
@exception	Adds a **Throws** subheading to the generated documentation, with the classname and description text.	@exception class-name description
{@inheritDoc}	Inherits a comment from the **nearest** inheritable class or implementable interface.	Inherits a comment from the immediate surperclass.
{@link}	Inserts an in-line link with the visible text label that points to the documentation for the specified package, class, or member name of a referenced class.	{@link package.class#member label}
{@linkplain}	Identical to {@link}, except the link's label is displayed in plain text than code font.	{@linkplain package.class#member label}
@param	Adds a parameter with the specified parameter-name followed by the specified description to	@param parameter-name description

	the "Parameters" section.	
@return	Adds a "Returns" section with the description text.	@return description
@see	Adds a "See Also" heading with a link or text entry that points to reference.	@see reference
@serial	Used in the doc comment for a default serializable field.	@serial field-description | include | exclude
@serialData	Documents the data written by the writeObject( ) or writeExternal( ) methods.	@serialData data-description
@serialField	Documents an ObjectStreamField component.	@serialField field-name field-type field-description
@since	Adds a "Since" heading with the specified since-text to the generated documentation.	@since release
@throws	The @throws and @exception tags are synonyms.	@throws class-name description
{@value}	When {@value} is used in the doc comment of a static field, it displays the value of that constant.	{@value package.class#field}
@version	Adds a "Version" subheading with the specified version-text to the generated docs when the -version option is used.	@version version-text

Command to generate html pages from javadocs:
javadoc -d .\pathToDestination .\pathToSrc.java file.

Code:

File 1, exp7a.java

```
import java.util.Scanner;
/**
 * in this class we are adding the square root of indivisual numbers;
 */
```

```
public class exp7a{
   /**
    * in this method we are taking the numbers as input and returning the addtion to main function;
    * @param x;
    * @return to main;
    */
   public static int add(int ...x)
   {
      return x[0]*x[0]+x[1]*x[1];
   }
   /**
    * this is the main method where the calling to add function is done and printing the result;
    * @param args
    */
  public static void main(String args[])
  {   //creating Scanner class object and passing system.in ;
      Scanner sc= new Scanner(System.in);
      System.out.println("enter the first number:");
      int n1=sc.nextInt();
      System.out.println("enter the second number:");
      int n2=sc.nextInt();
      int a=exp7a.add(n1,n2);
      System.out.print("the addtion of square root of indivisual is :"+a);
  }
}
```

File 2, exp7b.java

```
import java.util.Arrays;
/**
 * this is a assignment7 class for sorting the array;
 */
public class exp7b{
   /**
    * This is the main method where the arrays sorted and printed;
```

```
 *@param args
 */
public static void main(String args[])
{
    System.out.println("sorting the array.....");
    System.out.println("sorted array:");
    Arrays.sort(args);
    for(String i:args)
    {
      System.out.println(i);
    }
  }
}
```

Generating docs:
Perform following commands to generate doc:
javadoc -d .\pathToDestination .\pathToSrc.java file.

Actual commands:

javadoc -d .\javadocs\ .\exp7a.java

javadoc -d .\javadocs\ .\exp7b.java

Console output:

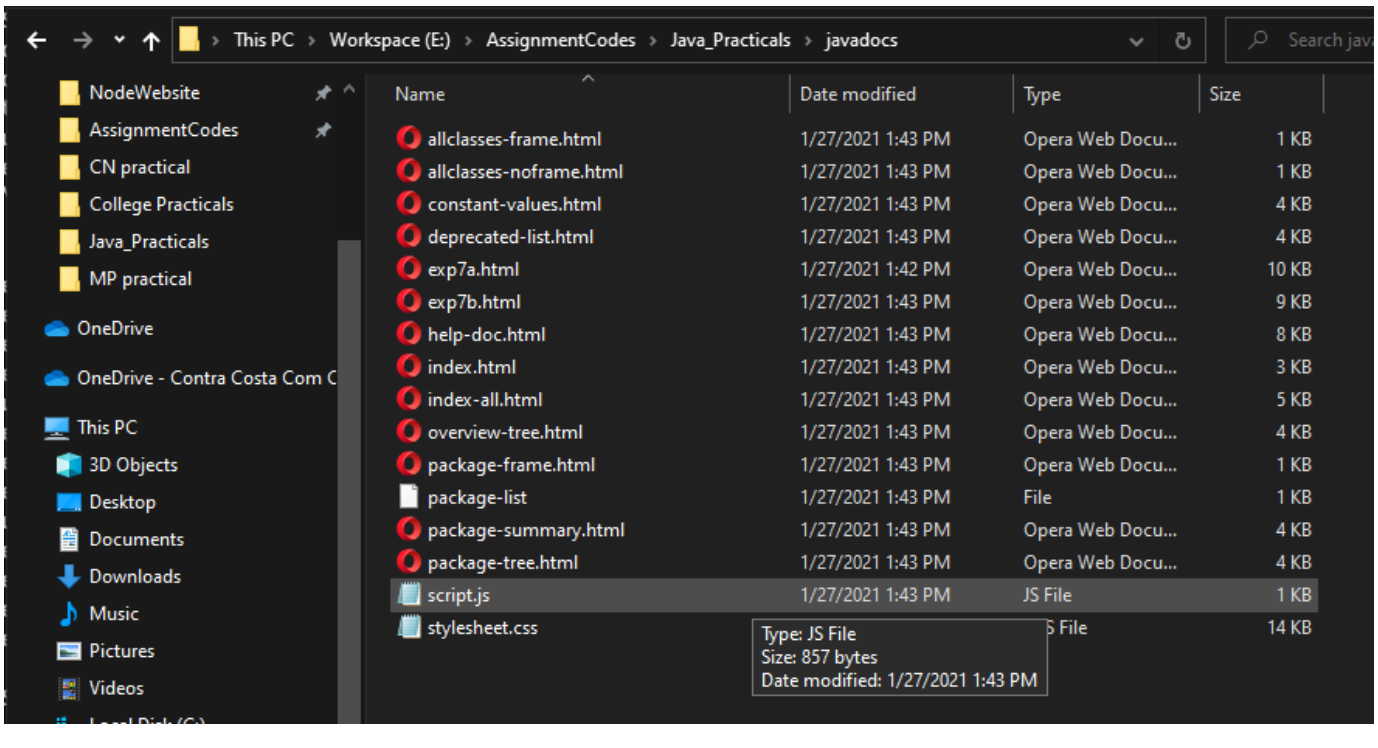
Windows PowerShell

```
PS E:\AssignmentCodes\Java_Practicals> javadoc -d .\javadocs\ .\exp7a.java
Loading source file .\exp7a.java...
Constructing Javadoc information...
Standard Doclet version 1.8.0_251
Building tree for all the packages and classes...
Generating .\javadocs\exp7a.html...
.\exp7a.java:17: warning: no description for @param
     * @param args
       ^
Generating .\javadocs\package-frame.html...
Generating .\javadocs\package-summary.html...
Generating .\javadocs\package-tree.html...
Generating .\javadocs\constant-values.html...
Building index for all the packages and classes...
Generating .\javadocs\overview-tree.html...
Generating .\javadocs\index-all.html...
Generating .\javadocs\deprecated-list.html...
Building index for all classes...
Generating .\javadocs\allclasses-frame.html...
Generating .\javadocs\allclasses-noframe.html...
Generating .\javadocs\index.html...
Generating .\javadocs\help-doc.html...
1 warning
PS E:\AssignmentCodes\Java_Practicals>
```

Windows PowerShell

```
PS E:\AssignmentCodes\Java_Practicals> javadoc -d .\javadocs\ .\exp7b.java
Loading source file .\exp7b.java...
Constructing Javadoc information...
Standard Doclet version 1.8.0_251
Building tree for all the packages and classes...
Generating .\javadocs\exp7b.html...
.\exp7b.java:8: warning: no description for @param
    *@param args
     ^
Generating .\javadocs\package-frame.html...
Generating .\javadocs\package-summary.html...
Generating .\javadocs\package-tree.html...
Generating .\javadocs\constant-values.html...
Building index for all the packages and classes...
Generating .\javadocs\overview-tree.html...
Generating .\javadocs\index-all.html...
Generating .\javadocs\deprecated-list.html...
Building index for all classes...
Generating .\javadocs\allclasses-frame.html...
Generating .\javadocs\allclasses-noframe.html...
Generating .\javadocs\index.html...
Generating .\javadocs\help-doc.html...
1 warning
PS E:\AssignmentCodes\Java_Practicals>
```

Docs Output: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NodeWebsite
AssignmentCodes
CN practical
College Practicals
Java_Practicals
MP practical
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Downloads
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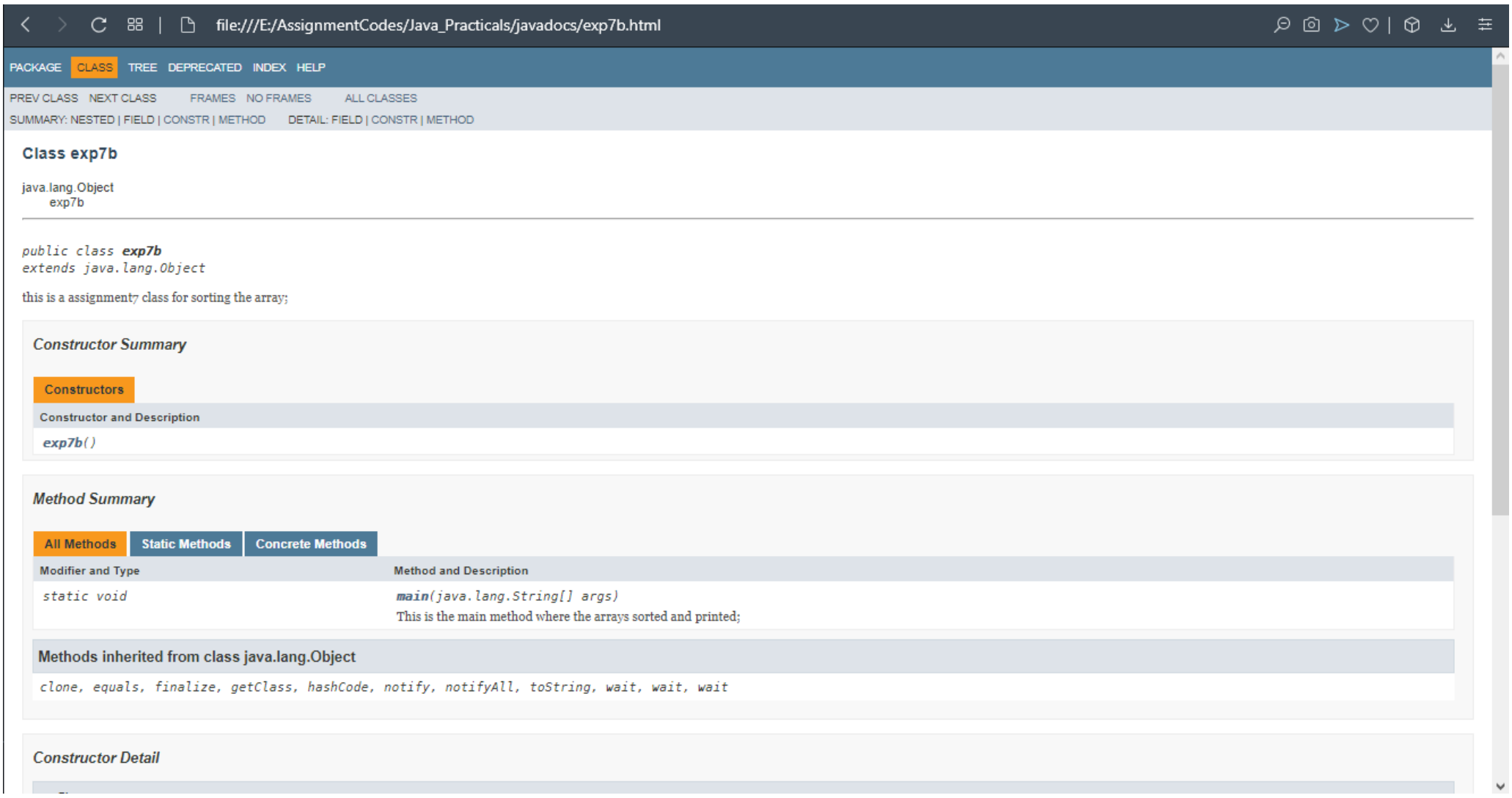
allclasses-frame.html 1/27/2021 1:43 PM Opera Web Docu... 1 KB
allclasses-noframe.html 1/27/2021 1:43 PM Opera Web Docu... 1 KB
constant-values.html 1/27/2021 1:43 PM Opera Web Docu... 4 KB
deprecated-list.html 1/27/2021 1:43 PM Opera Web Docu... 4 KB
exp7a.html 1/27/2021 1:42 PM Opera Web Docu... 10 KB
exp7b.html 1/27/2021 1:43 PM Opera Web Docu... 9 KB
help-doc.html 1/27/2021 1:43 PM Opera Web Docu... 8 KB
index.html 1/27/2021 1:43 PM Opera Web Docu... 3 KB
index-all.html 1/27/2021 1:43 PM Opera Web Docu... 5 KB
overview-tree.html 1/27/2021 1:43 PM Opera Web Docu... 4 KB
package-frame.html 1/27/2021 1:43 PM Opera Web Docu... 1 KB
package-list 1/27/2021 1:43 PM File 1 KB
package-summary.html 1/27/2021 1:43 PM Opera Web Docu... 4 KB
package-tree.html 1/27/2021 1:43 PM Opera Web Docu... 4 KB
script.js 1/27/2021 1:43 PM JS File 1 KB
stylesheet.css File 14 KB
Type: JS File
Size: 857 bytes
Date modified: 1/27/2021 1:43 PM

file:///E:/AssignmentCodes/Java_Practicals/javadocs/exp7a.html
PACKAGE CLASS TREE DEPRECATED INDEX HELP
PREV CLASS NEXT CLASS FRAMES NO FRAMES ALL CLASSES
SUMMARY: NESTED | FIELD | CONSTR | METHOD DETAIL: FIELD | CONSTR | METHOD
Class exp7a
java.lang.Object
exp7a
public class exp7a
extends java.lang.Object
in this class we are adding the square root of indivisual numbers;
Constructor Summary
Constructors
Constructor and Description
exp7a()
Method Summary
All Methods Static Methods Concrete Methods
Modifier and Type
Method and Description
static int
add(int... x)
in this method we are taking the numbers as input and returning the addtion to main function;
static void
main(java.lang.String[] args)
this is the main method where the calling to add function is done and printing the result;
Methods inherited from class java.lang.Object
clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait



Conclusion: Thus we understood and successfully created javadocs for our project using various techniques used for commenting and documenting java experiments.