**23CSE101**

**OBJECT ORIENTED PROGRAMMING**

**LAB MANUAL**



**Department of Computer Science Engineering**

**Amrita School of Computing**

**Amrita Vishwa Vidyapeetham, Amaravati Campus**

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**Roll No: AV.SC.U4CSE24209**

**WEEK-01**

**PROGRAM-1:**

**AIM:-** Download and install java software.

**PROCEDURE:-**

**1.Download JDK21:**

i. Open the web browser and go to Oracle JDK Downloads page.

ii. Scroll down to the Java SE Development Kit 21 section.

iii.Select` the Windows x64 Installer version.

iv. Click on Download, then Wait for the download to complete**.**



**Step 2:** **Installation of JDK 21:-**

1. Locate the downloaded jdk-21\_windows-x64\_bin.exe file.
2. Double-click to launch the installer.
3. Click Next on the setup wizard.
4. Choose the installation path (default is C:\Program Files\Java\jdk-21).
5. Click Next, then click Install.
6. Wait for the installation to complete.

vii. Click Close once the installation is finished.



**Step 3: Setting up the path:-**

i. Go to “Windows C” Drive in This PC.

ii. Choose Program Files, select Java, then JDK 21, then select Bin.

iii. Select and copy the path at the address bar.



**Step 4: Open System Properties:-**

i.Press Windows + R, type sysdm.cpl , and click Ok-

ii.The System Properties window will open.

iii.Navigate to the Advanced tab.

iv.Click on Environment Variables at the bottom.



**Step 5: Setting up of JAVA\_HOME:-**

i.Under System Variables, click New.

ii. Set the Variable name as JAVA\_HOME.

iii. Set Variable value as C:\Program Files\Java\jdk-21 (or your installation path).

iv. Click on OK.



**Step 6: Update the PATH Variable:-**

i.In System Variables, find Path and click Edit.

ii.Click New and add: C:\Program Files\Java\jdk-21\bin

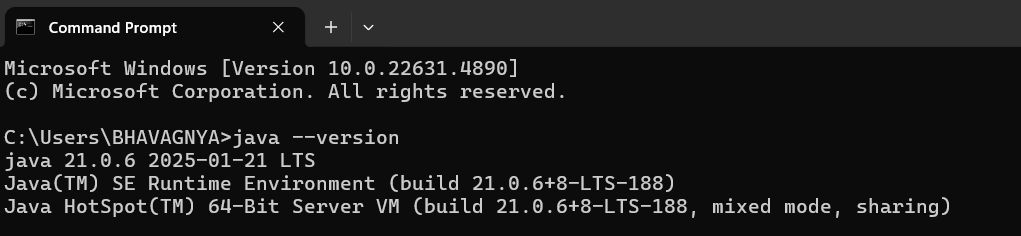
iii.Click OK to save.



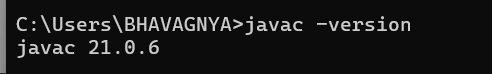
**Step 7:Verify Installation1:-**

i.Open Command Prompt.

ii.Type the following command: **java --version** and press Enter.



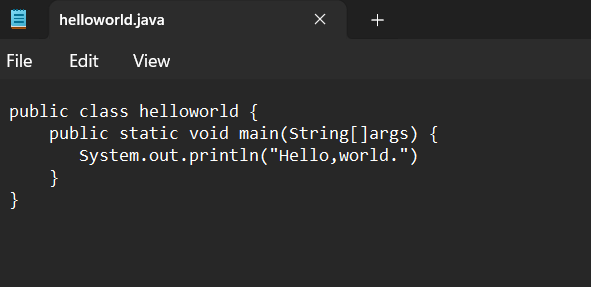
iii.To check the java compiler type: **javac –version.**

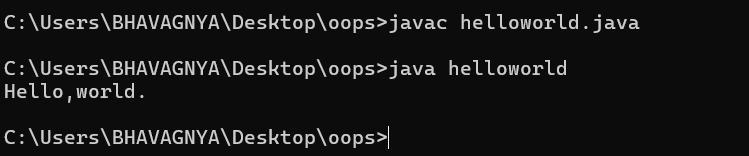
****

**PROGRAM-2:**

**AIM:** Write a Java program to print the message “Welcome to Java Programming.”

**CODE:**

**OUTPUT:-**

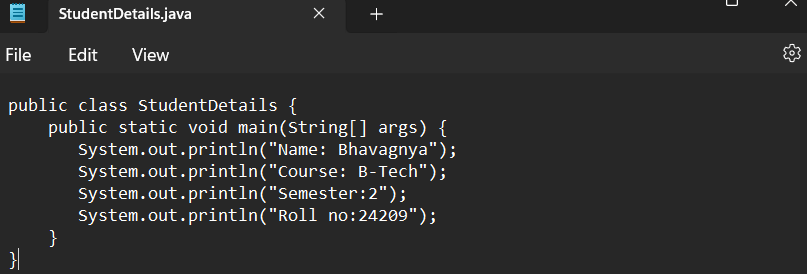
****

**ERRORS:-**

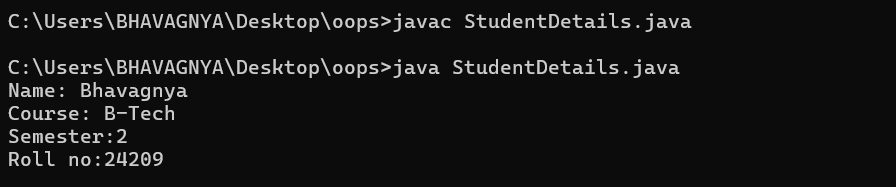
No Errors found.

**PROGRAM-3:**

**AIM:** Write a Java Program that prints Name, Roll No, Section of a student.

****

**OUTPUT:-**



ERROR TABLE:

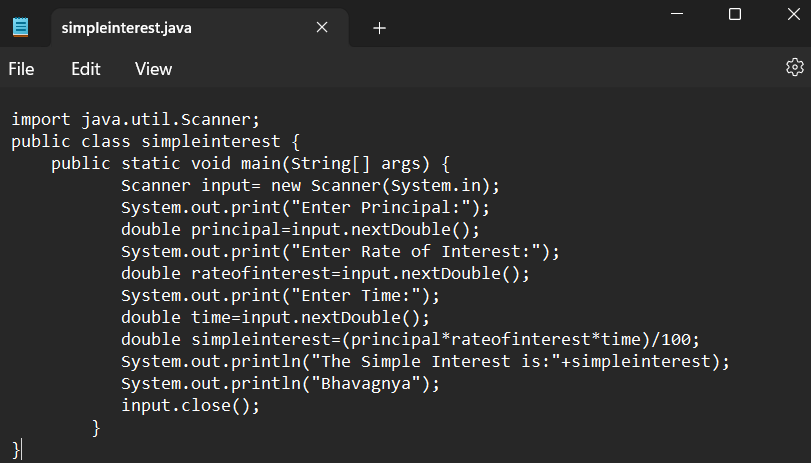
|  |  |
| --- | --- |
| **ERROR IN CODE** | **ERROR RECTIFICATION** |
| 1. ; is missing | 1. code is rectified by keeping a (;) in every place where it is missing. |

**WEEK-2:**

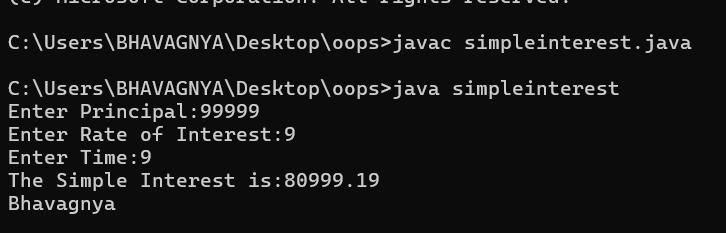
**PROGRAM-1:**

AIM: Write a java program to find the simple interest where all the inputs are given by the user.

CODE:



**OUTPUT:-**



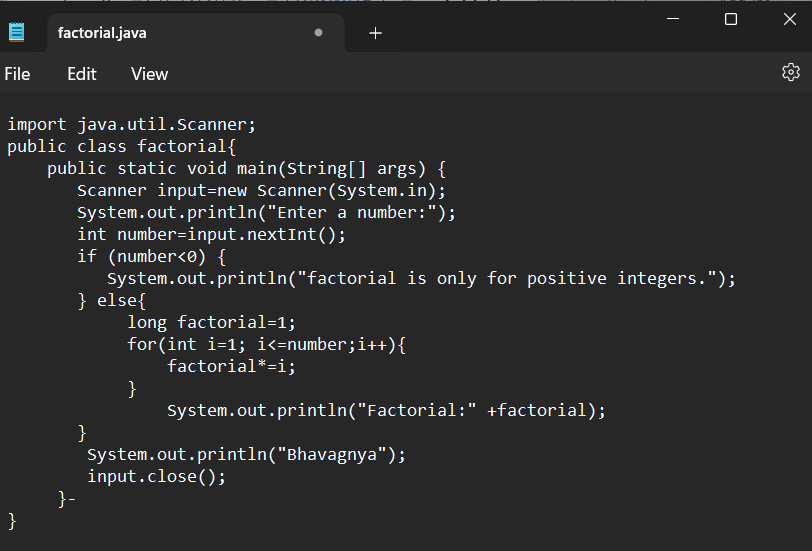
**ERROR TABLE:**

|  |  |  |
| --- | --- | --- |
|  | ERROR | ERROR RECTIFICATION |
| 1) | ; is expected after input.close() | Corrected by writing a ; after input.close() |
| 2) | Error in the line double principal=input.next.double(); | Corrected by removing “. “after the next. |

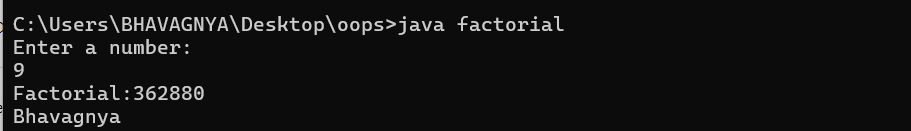
**PROGRAM-2:**

**AIM**: Write a java program to find the factorial of a number where all the inputs are given by the user.

**CODE:**



**OUTPUT:**

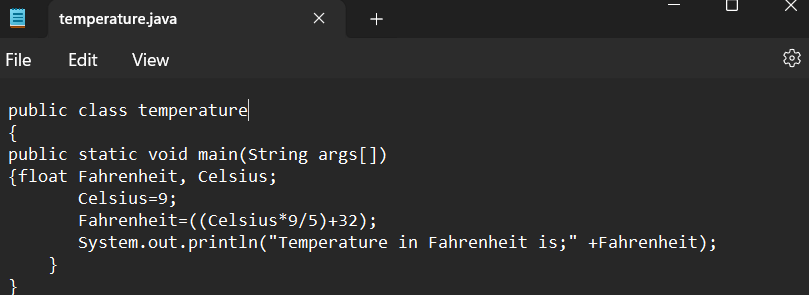


**ERROR TABLE:**

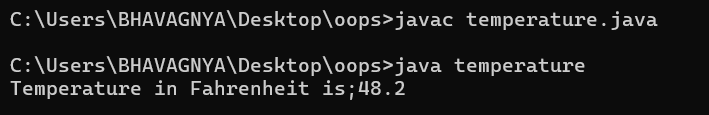
|  |  |  |
| --- | --- | --- |
|  | ERROR | ERROR RECTIFICATION |
| 1) | writing small “S” in place of ”S” in system.out.println() | code is rectified by keeping capital “S” |
| 2) | “ is missed in the print statement | Corrected by keeping “ in the end of print statement. |

**PROGRAM-3:**

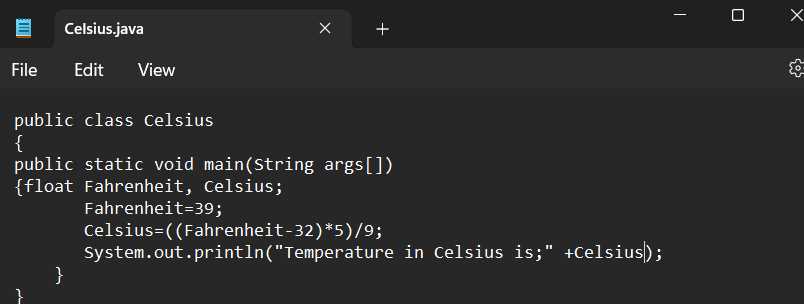
**AIM**: Write a java program to convert the temperature from Celsius to Fahrenheit and Celsius to Fahrenheit.



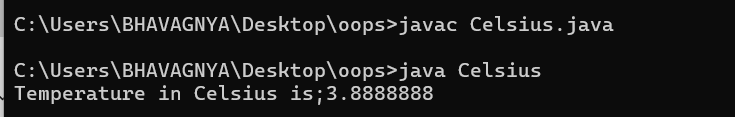
**OUTPUT:-**



**CODE2:**



**OUTPUT:**

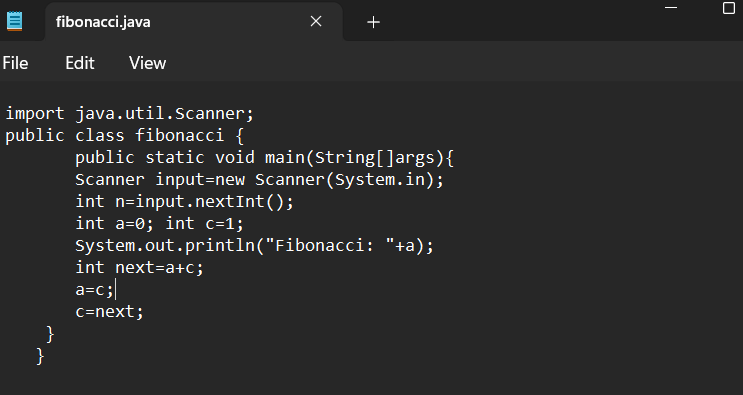
****

**ERROR TABLE:**

|  |  |  |
| --- | --- | --- |
| S.NO | ERROR | ERROR RECTIFICATION |
| 1. | Logical error  Missed \* after Celsius in code 1 | Corrected by keeping a \* operator in the appropriate place |

**PROGRAM – 4:**

AIM: Write a java program to find the Fibonacci series of a given number where all the inputs are taken from the user.

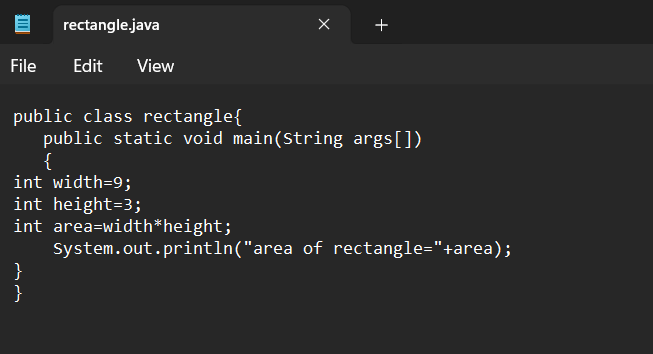


**OUTPUT:**

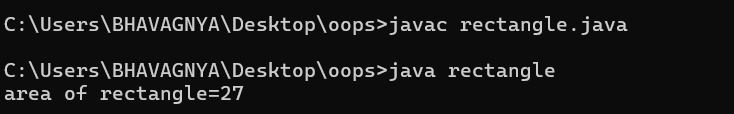
|  |  |  |
| --- | --- | --- |
| S.NO | ERROR | ERROR RECTIFICATION |
| 1. | Expected an ; after line 4 | Corrected by keeping an ; after the line |

PROGRAM-5:

AIM: Write a java program to find the area of a rectangle where the inputs are given by the user.

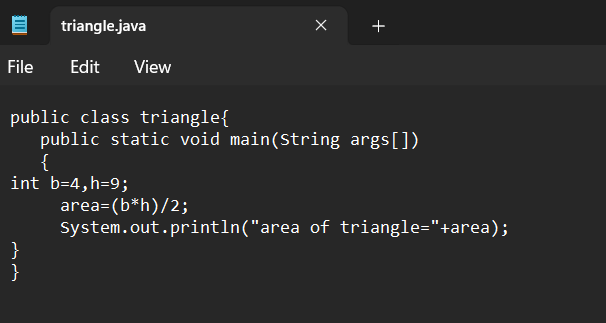


OUTPUT:



|  |  |  |
| --- | --- | --- |
|  | ERROR | ERROR RECTIFICATION |
| 1. | “ “ expected in the print statement | Corrected by closing the print statement with “ |

**PROGRAM-6**

AIM: Write a java program to find the area of a triangle where the inputs are given by the user.

OUTPUT:

**ERROR TABLE:**

NO ERRORS

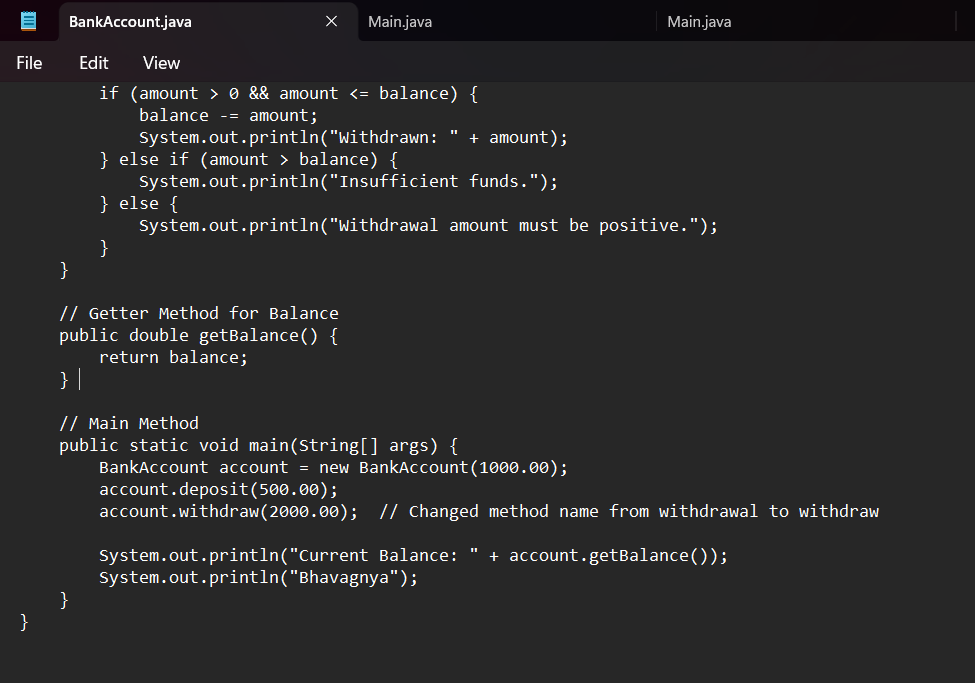
**WEEK-03**

**PROGRAM-1:**

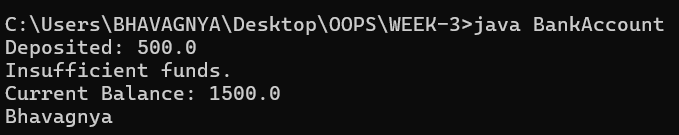
**AIM:**

|  |
| --- |
| Bank account |
| -balance:double |
| +bank account initial balance:double  +deposit amount:double  +withdrawal:double  +getbalance():double |

**CODE:**

****

**OUTPUT:**

****

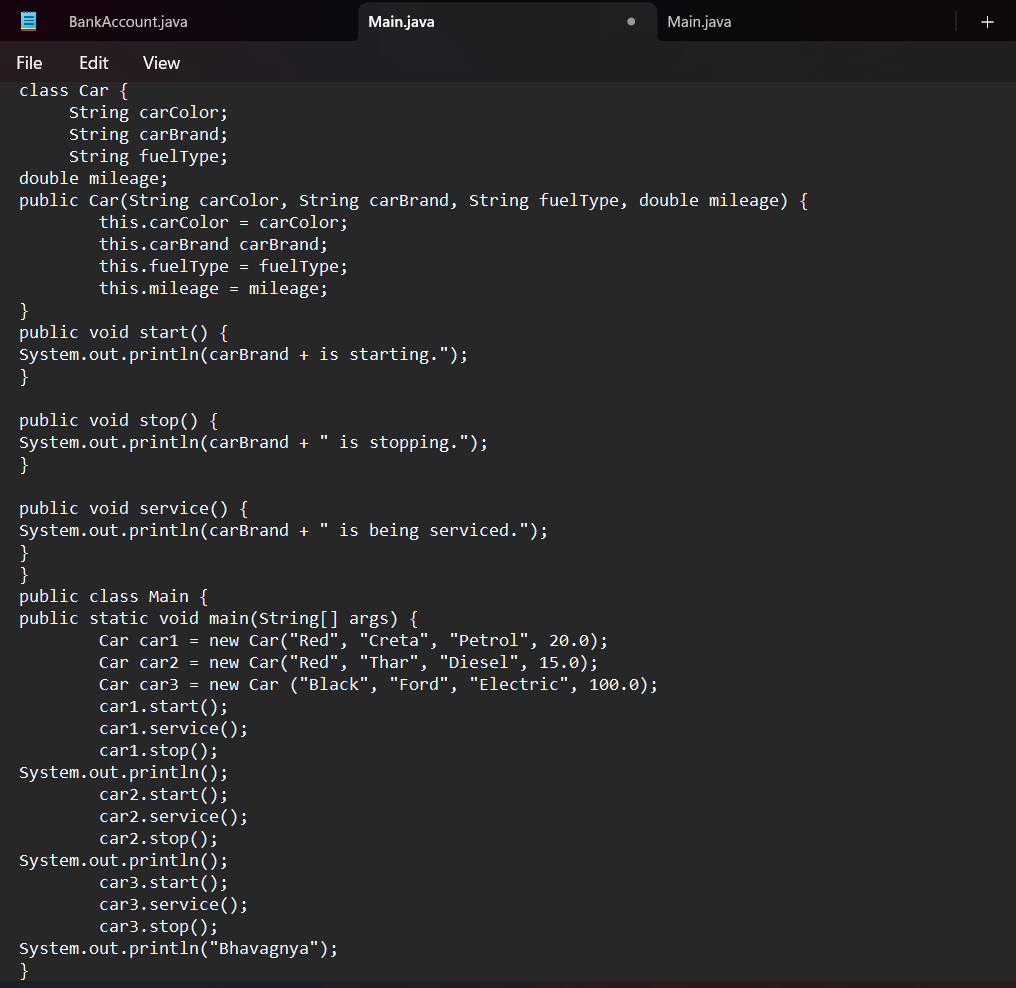
**ERROR TABLE:**

|  |  |  |
| --- | --- | --- |
|  | ERROR | ERROR RECTIFICATION |
| 1. | writing small “S” in place of ”S” in system.out.println() | code is rectified by keeping capital “S” |

**PROGRAM-2:**

**AIM:** Create a class car. Create four attributes named car\_color, car\_brand, fuel\_type, mileage. Create three methods start() stop() service().Create 3 objects named car1 car2 car3.

|  |
| --- |
| car |
| +car color:string  +car brand:sstring  -fuel type:string  -mileage:double |
| +start():void  +stop():void  -service():void  +car1():void  +car2():void  +car3():void |

****

**OUTPUT:**

****

**ERROR TABLE:**

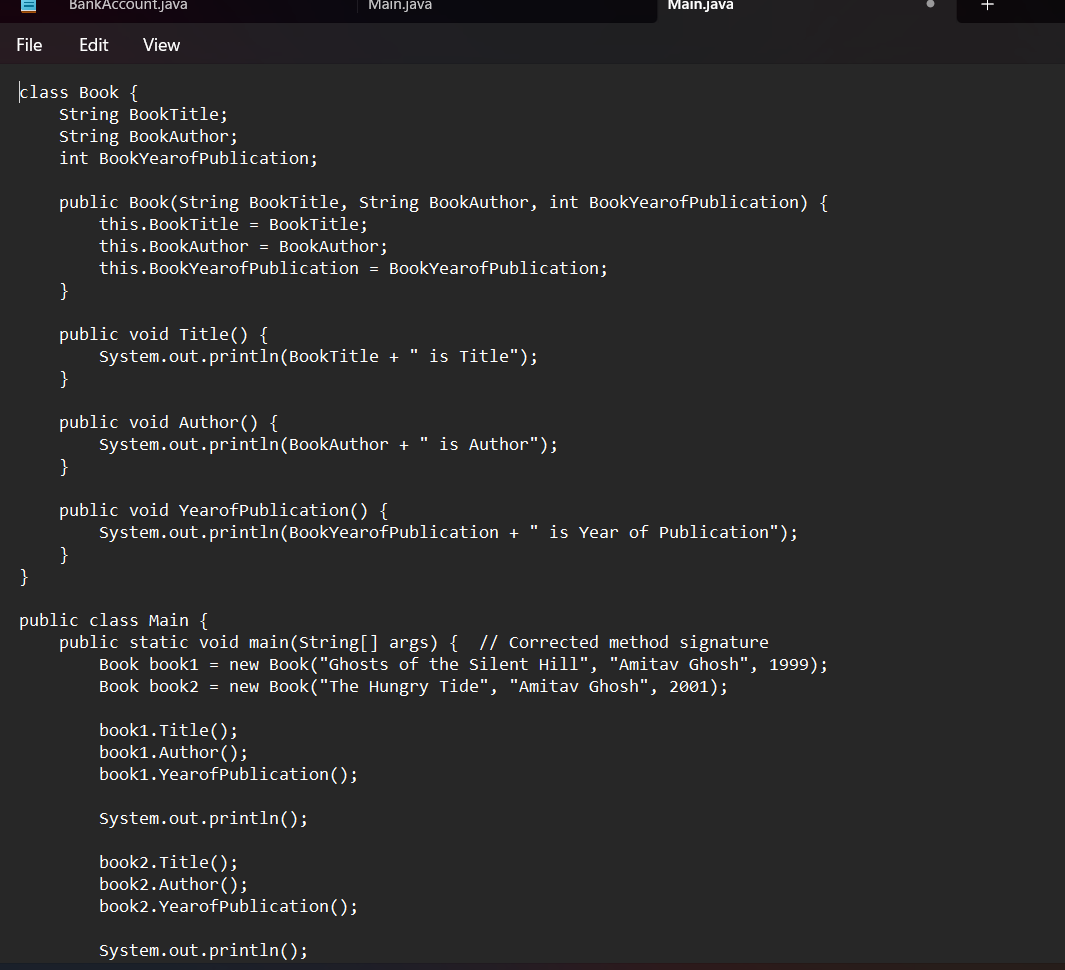
|  |  |  |
| --- | --- | --- |
|  | ERROR | ERROR RECTIFICATION |
| 1. | writing small “S” in place of ”S” in system.out.println() | code is rectified by keeping capital “S” |

**WEEK-04**

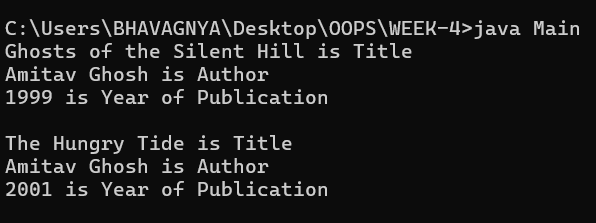
**PROGRAM-1:**

**AIM: Write a java program with class named book. The class should contain various attributes such as title, author, year of publication. It should also contain a constructor with parameters which initializes title, author, Year of publication. Create a method which displays the details of book. Display the details of two books.**

**CODE:**

****

**OUTPUT:**

****

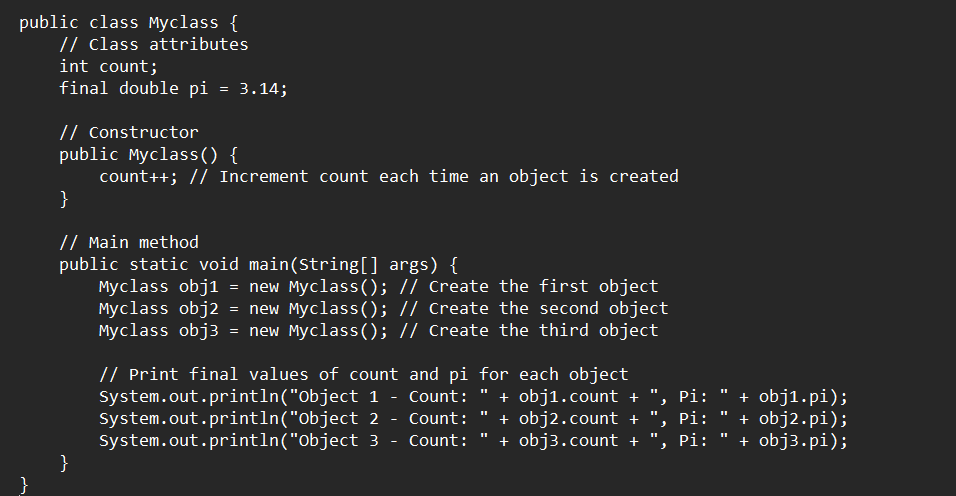
**ERROR TABLE:**

|  |  |  |
| --- | --- | --- |
|  | ERROR | ERROR RECTIFICATION |
| **1.** | “ is missed in the print statement | Corrected by keeping “ in the end of print statement. |

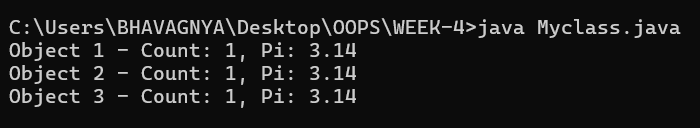
**PROGRAM-2:**

**AIM: Create a java program with class name Myclass with a starting variable count of int type, initialized to zero and a constant variable “pi” of type double initialized to 3.14 as attributes of that class. Define a constructor for “myclass” that increments the count variable each time an object of myclass is created. Finally print the final values of count and pi variables. Create three objects.**

**CODE:**

****

**OUTPUT:**

****

**ERROR TABLE:**

|  |  |  |
| --- | --- | --- |
|  | ERROR | ERROR RECTIFICATION |
| 1. | Missed ; after creating object | Corrected by placing; after every object |
| 2. | } closing is missing | Corrected by closing the code with } |

**WEEK-05**