

Experiment No: 1

Experiment Name: Demonstration of Java Basics

Task No: 1

Task Name: Installation of Visual Studio Code.

Theory: Visual Studio Code, commonly referred to as VS Code, is a source-code editor made by Microsoft with the Electron Framework for Windows, Linux, and macOS. It features support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git. Procedure: Follow the steps below to install VS Code on Windows:

Step 1: <https://code.visualstudio.com/> and click on the "Windows Download" option. By clicking the download option, an exe file (approximately 90 MB) will be downloaded, and the process should not take much time.



Download Visual Studio Code

Free and built on open source. Integrated Git, debugging and extensions.

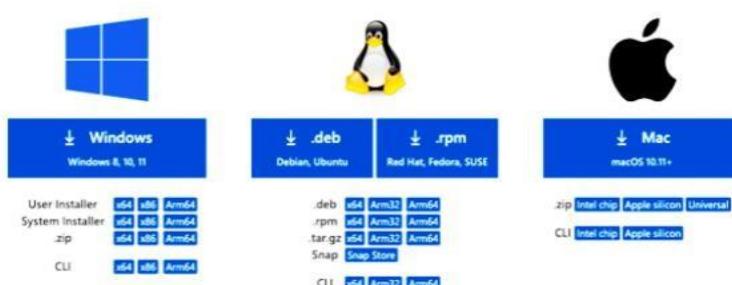


Figure: 1

Step 2: After the file is downloaded, open it, and the following screen will appear. Check the "I accept the agreement" option and proceed by clicking the "Next" button.

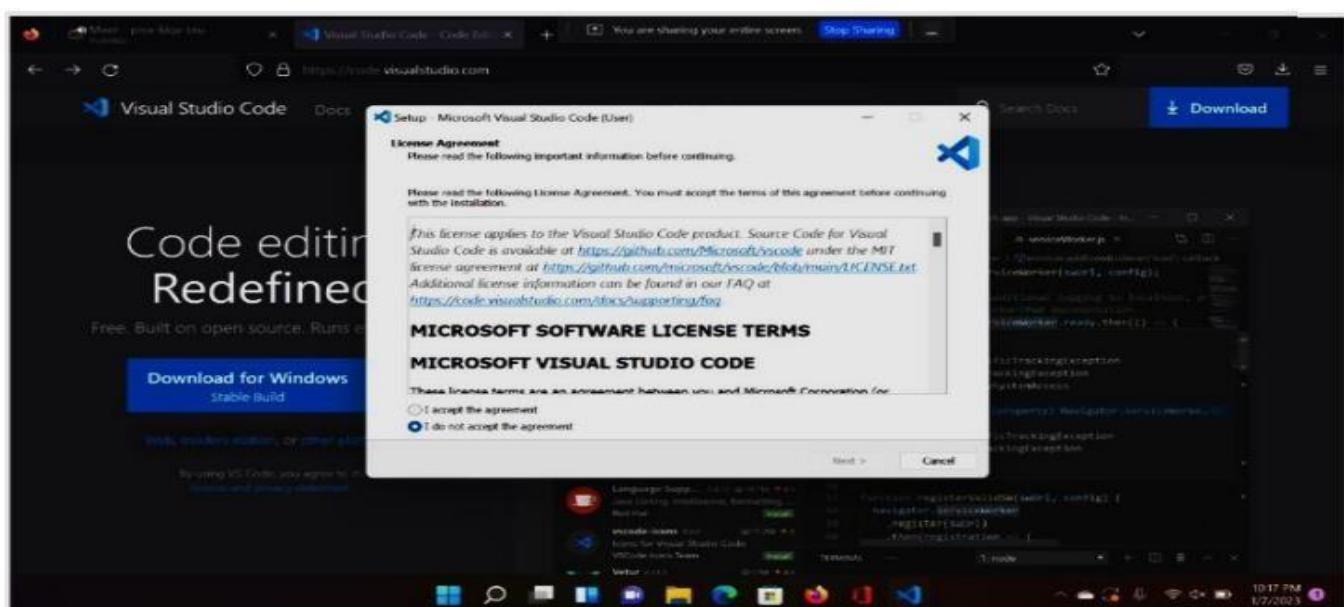


Figure:2

Step 3: The next screen is for selecting the file location. You can avoid changing the default location by simply clicking the "Next" button.

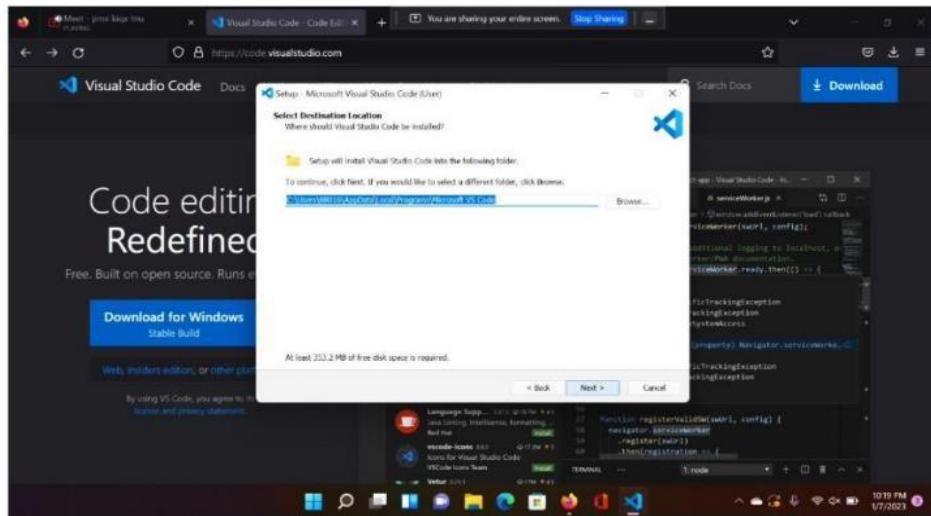


Figure:3

Step 4: The subsequent screen is for creating a shortcut in the start menu bar. You can click the "Next" button without making any changes.

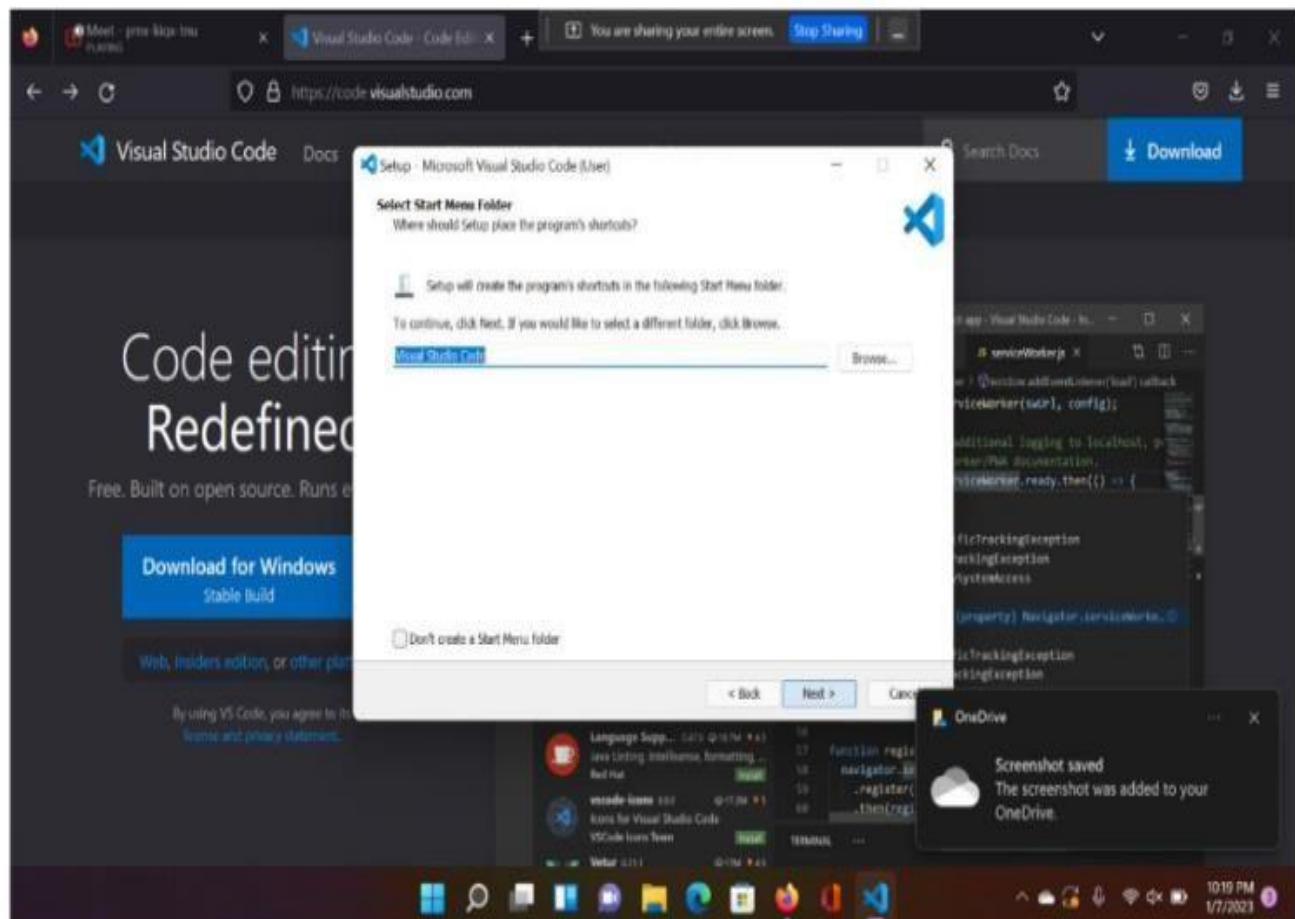


Figure:4

Step 5: This screen will display the available additional tasks for VS Code. If you want to avoid changing anything, click the "Next" button.

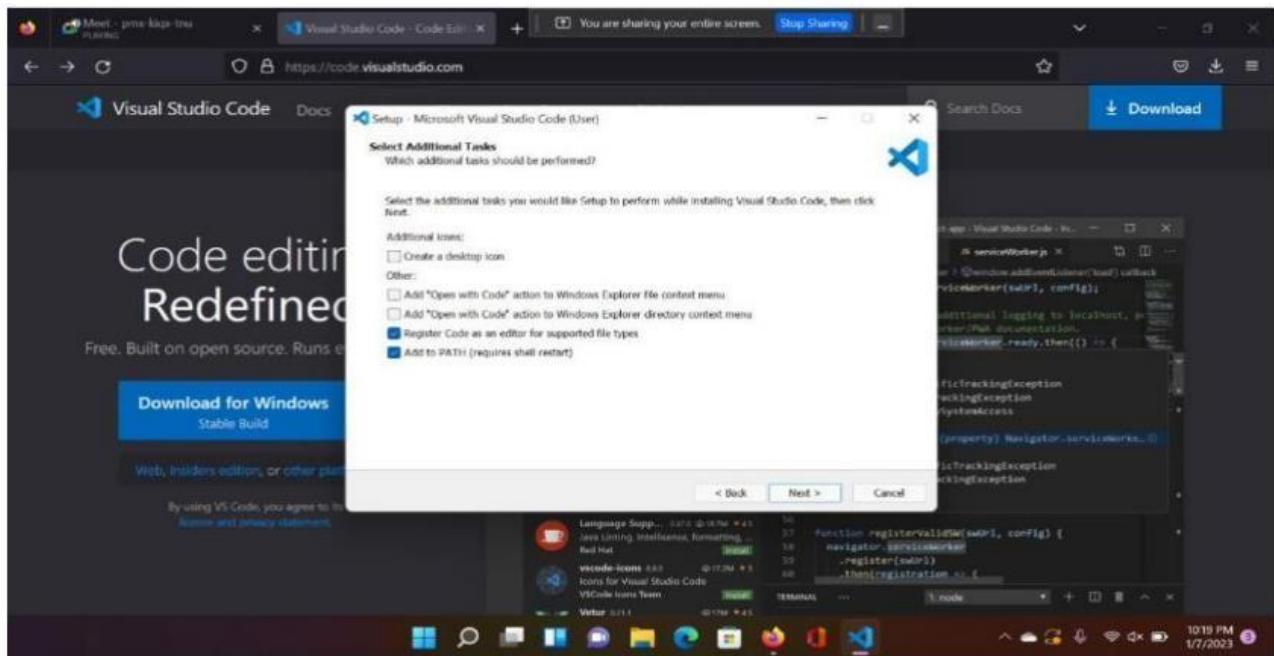


Figure:5

Step 6: The next screen will show a description and an "Install" button. Click the "Install" button, and the installation will be complete within a minute.

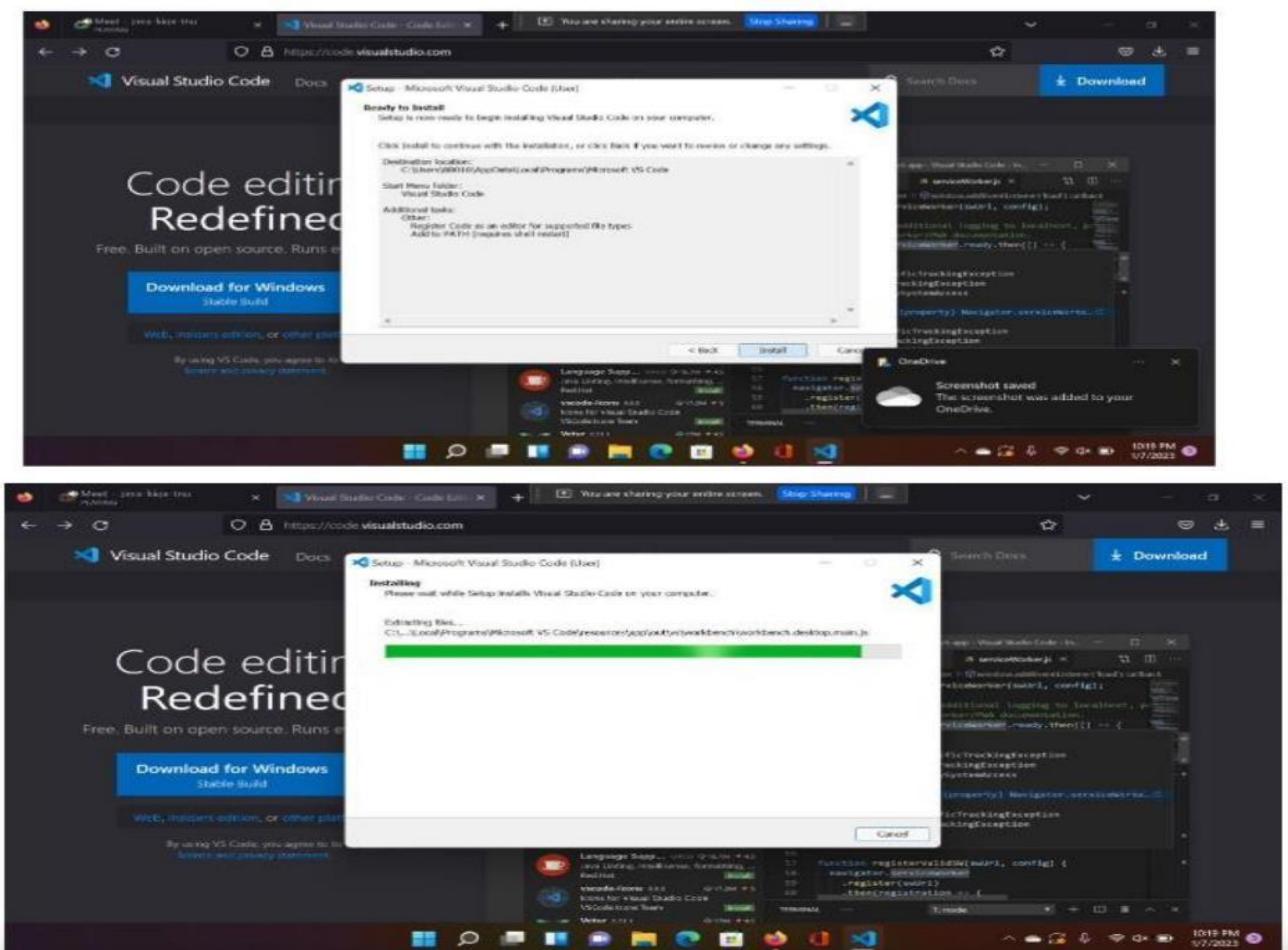


Figure:6

Step 7: After the installation is finished, this screen will appear. Click the "Finish" button to complete the installation process, and you are ready to open Visual Studio Code.

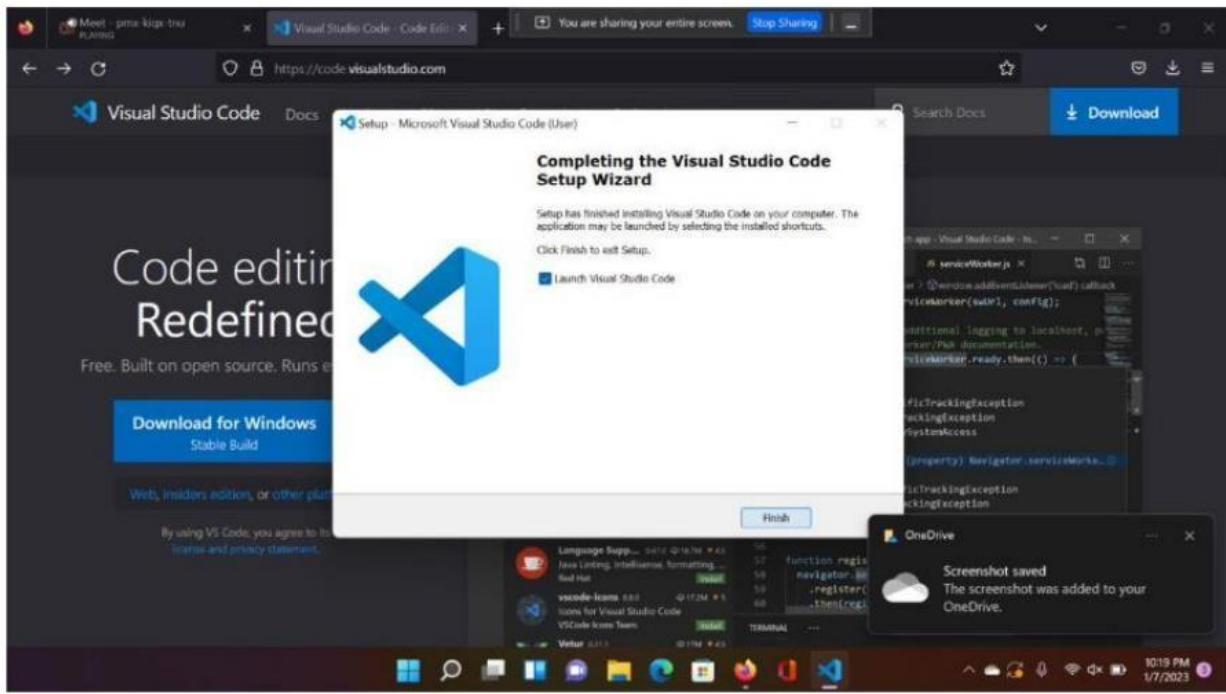


Figure:7 Step

8: Run the software and explore its interface.

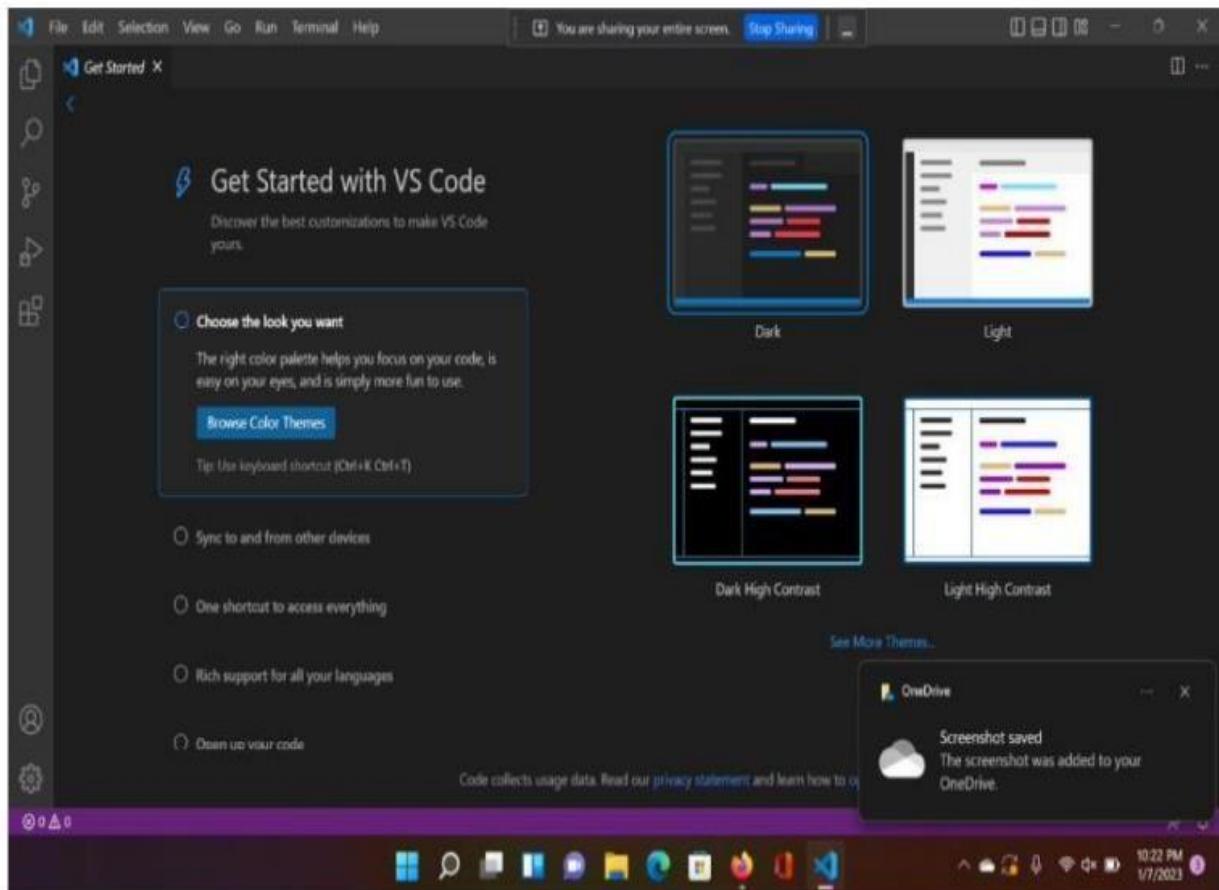


Figure:8

Conclusion: In conclusion, the installation process for Visual Studio Code on Windows is straightforward and user-friendly. By following a series of simple steps, you can quickly download, install, and set up the software.

Task No: 02

Task Name: Write A Java program to display your information (name, Student Id, age, Email, Phone, Address) Create a class Grandfather with a method company().

Objective:

- To display student information such as name, ID, age, email, phone, and address.
- To create a class Grandfather with a method company() that shows company details.

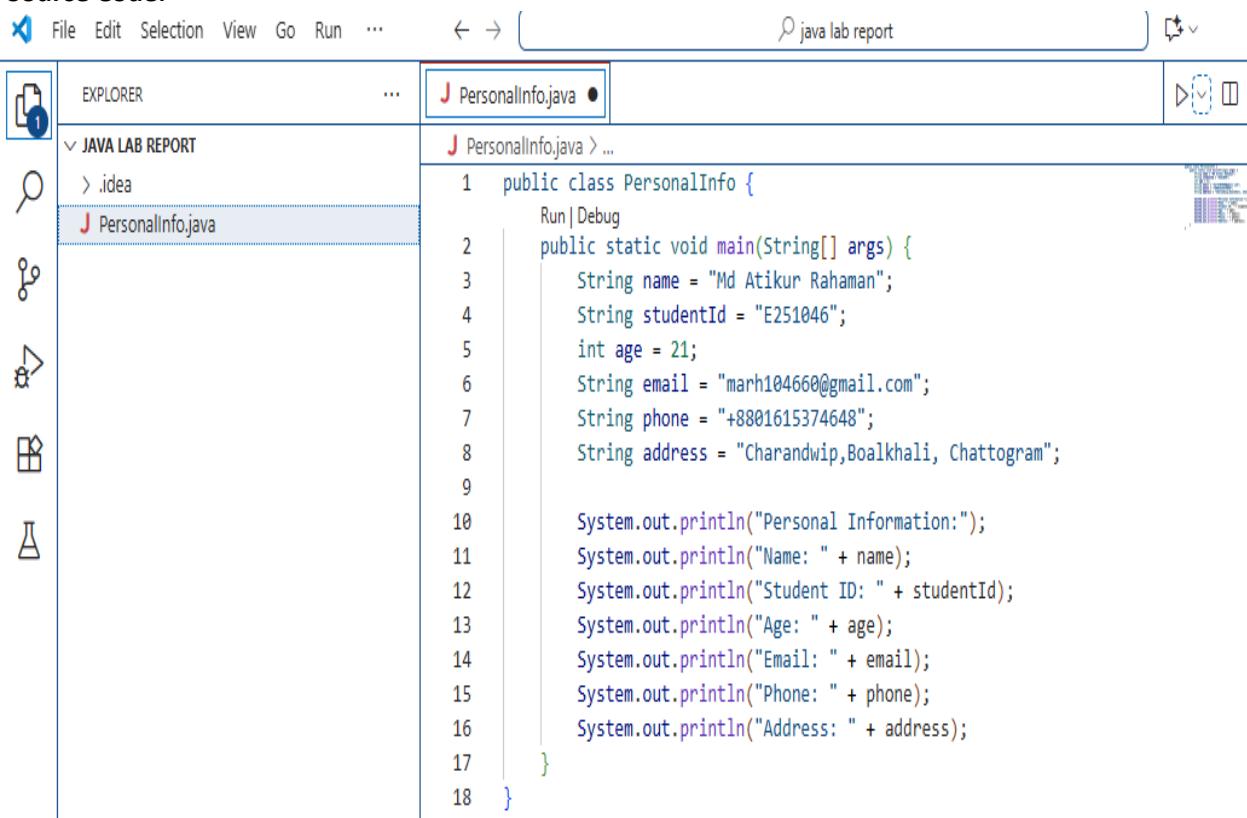
Problem Analysis:

The problem is to display student information like name, student ID, age, email, phone, and address using Java. To solve this, we need to create a class that stores these details in variables and then print them using a method. Along with that, we also need another class called Grandfather which will have a method company() to show company information. Finally, by creating objects of these classes, we can call the methods and display all the required details as output.

Algorithm:

1. Start.
2. Define Grandfather class with company() method
3. In the main method:
 - Create a Student object
 - Set the personal information
 - Display all information
 - Create a Grandfather object and call its company()
4. End.

Source Code:



The screenshot shows the IntelliJ IDEA interface with the following details:

- Toolbar:** File, Edit, Selection, View, Go, Run, ...
- Search Bar:** java lab report
- Project Explorer:** Shows a folder named "JAVA LAB REPORT" containing ".idea" and "PersonalInfo.java".
- Editor:** The "PersonalInfo.java" file is open, showing the following code:

```
1 public class PersonalInfo {  
2     public static void main(String[] args) {  
3         String name = "Md Atikur Rahaman";  
4         String studentId = "E251046";  
5         int age = 21;  
6         String email = "marh104660@gmail.com";  
7         String phone = "+8801615374648";  
8         String address = "Charandwip, Boalkhali, Chattogram";  
9  
10        System.out.println("Personal Information:");  
11        System.out.println("Name: " + name);  
12        System.out.println("Student ID: " + studentId);  
13        System.out.println("Age: " + age);  
14        System.out.println("Email: " + email);  
15        System.out.println("Phone: " + phone);  
16        System.out.println("Address: " + address);  
17    }  
18}
```

Output:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS +  
Address: Charandwip,Boalkhali, Chattogram  
PS C:\Users\DELL\Documents\java lab report> Get-PhysicalDisk^C  
PS C:\Users\DELL\Documents\java lab report>  
PS C:\Users\DELL\Documents\java lab report> c:; cd 'c:\Users\DELL\Documents\java lab report'; & 'C:\Program Files\Java\jre1.8.0_461\bin\java.exe' '-cp' 'C:\Users\DELL\AppData\Roaming\Code\User\workspaceStorage\6b5177aff4ab143dfd230e0ba9c45962\redhat.java\jdt_ws\java lab report_e060b37f\bin' 'PersonalInfo'  
Personal Information:  
Name: Md Atikur Rahaman  
Student ID: E251046  
Age: 21  
Email: marsh104660@gmail.com  
Phone: +8801615374648  
Address: Charandwip,Boalkhali, Chattogram  
PS C:\Users\DELL\Documents\java lab report>
```

Discussion:

The program shows inheritance: the students class inherits the company() method from Grandfather. The displayInfo() method demonstrates encapsulation by storing and printing student details. The structure is scalable: more classes (like Father, Teacher, etc.) could be added to demonstrate deeper inheritance.