

Faculty of Computing

Year 1 Semester 1 (2024)

IT1120 – Introduction to Programming

Lab Sheet 01

Part A – Java Setup

JDK Download

1. **Visit Oracle Java Download Page:**

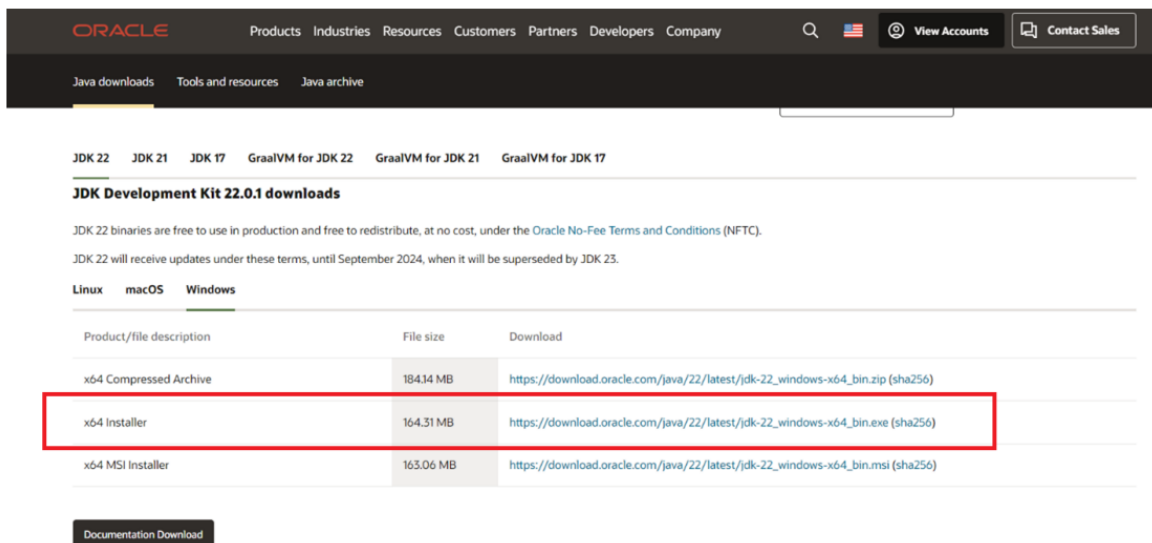
<https://www.oracle.com/java/technologies/downloads/>

2. **Select Java Version:** Select the latest Java Development Kit (JDK) version, in this example JDK 22 selected.

3. **Choose Your Operating System:** Click on the appropriate download link for your operating system (Windows, MacOS, Linux).

4. **Download the Installer:** For Windows, select the link for the ‘x64 Installer’ to begin downloading the file named: `jdk-22_windows-x64_bin.exe`

5. **Complete the Installation:** Once downloaded, run the `jdk-22_windows-x64_bin.exe` file and follow the on-screen instructions to install Java.



Product/file description	File size	Download
x64 Compressed Archive	184.14 MB	https://download.oracle.com/java/22/latest/jdk-22_windows-x64_bin.zip (sha256)
x64 Installer	164.31 MB	https://download.oracle.com/java/22/latest/jdk-22_windows-x64_bin.exe (sha256)
x64 MSI Installer	163.06 MB	https://download.oracle.com/java/22/latest/jdk-22_windows-x64_bin.msi (sha256)

Documentation Download

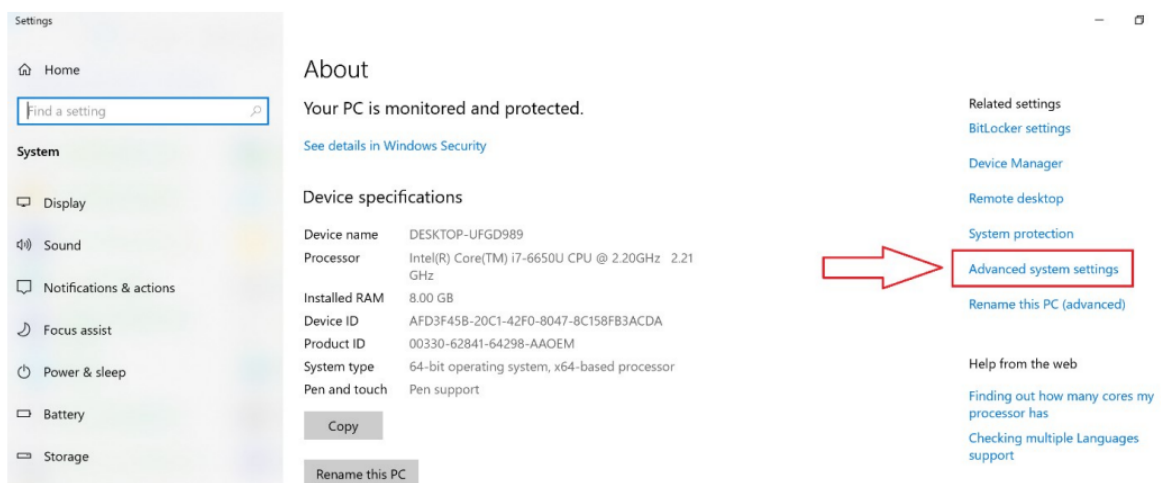
Java Environment Home Path Setup

1. **Locate Installation Directory:** Java installation default location is:

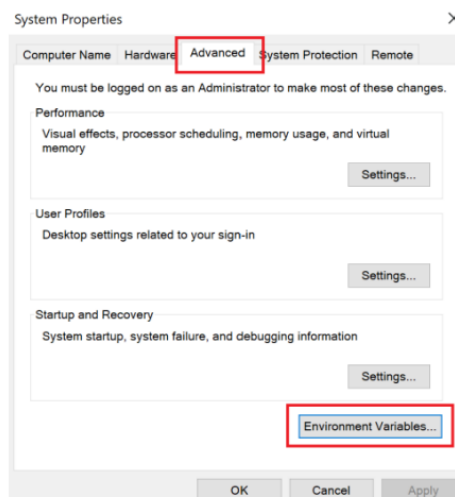
C:\Program Files\Java\jdk-22

2. **Open System Properties:**

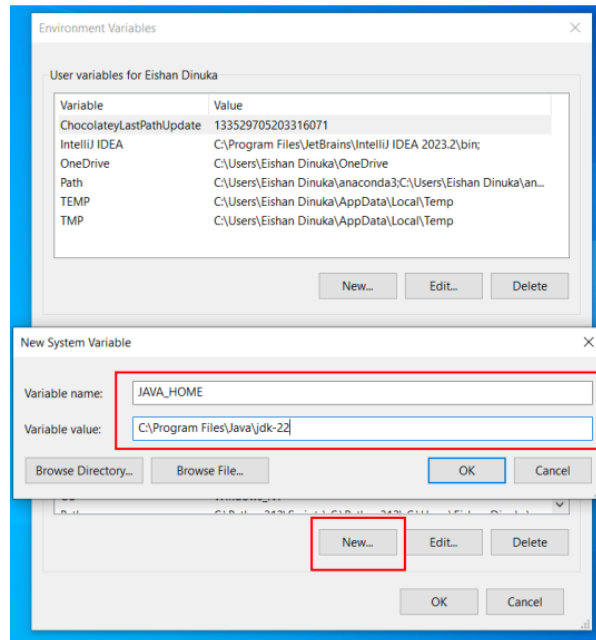
- **Open the Start Menu:** Click on the Start button or press the Windows key.
- **Access Control Panel:** Type Control Panel into the search box and click on it from the search results.
- **System and Security:** In the Control Panel, click on '*System and Security*'.
- **System:** Click on '*System*'.
- **Advanced System Settings:** Click '*Advanced system settings*' on the right side.



3. **Environment Variables:** In System Properties window under '*Advanced*' tab, click on the '*Environment Variables*' button.

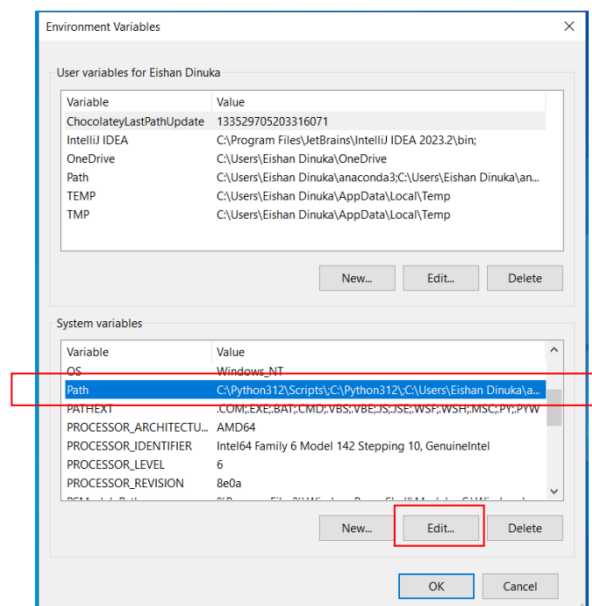


4. Select **JAVA_HOME**: In the System variables section, click 'New' to create a new variable:
5. Set **Variable name**: JAVA_HOME
6. Set **Variable value**: the path to your Java installation e.g: C:\Program Files\Java\jdk-22



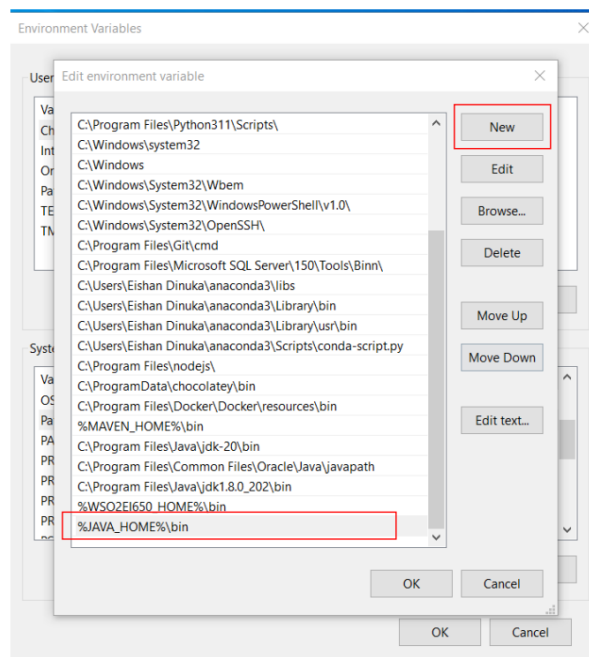
Update Path Variable:

1. Select the 'Path' variable under 'System Variables' and click 'Edit' button.



2. Click 'New' and add: %JAVA_HOME%\bin

3. **Confirm Changes:** Click 'OK' to apply the changes.



Verify The Installation (Java Version Check)

1. Open **Command Prompt**.
2. Check Java Version:
 - Type **java -version** in the command prompt
 - press Enter.

```
Microsoft Windows [Version 10.0.19045.4529]
(c) Microsoft Corporation. All rights reserved.

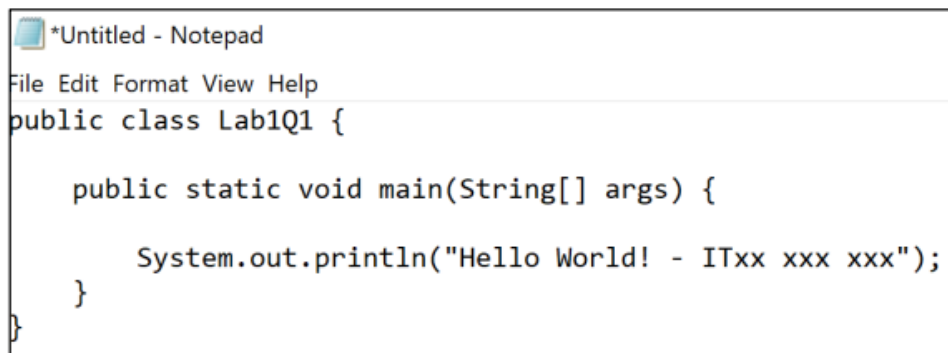
C:\Users\Eishan Dinuka>java -version
java version "22.0.1" 2024-04-16
Java(TM) SE Runtime Environment (build 22.0.1+8-16)
Java HotSpot(TM) 64-Bit Server VM (build 22.0.1+8-16, mixed mode, sharing)

C:\Users\Eishan Dinuka>
```

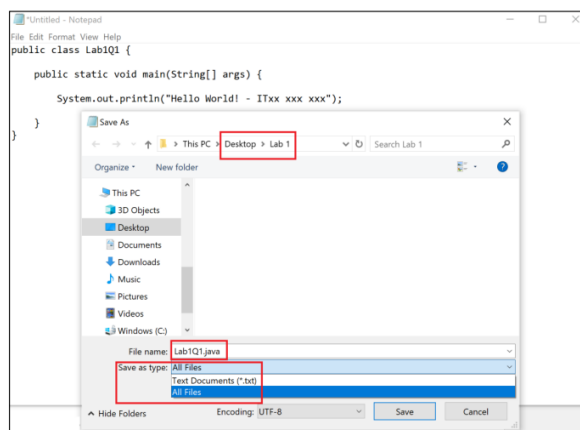
Part B – Java Hello World Program

- **Create a Folder:**
 - In Desktop of your computer
 - Create a New Folder named: '**Lab 1**'
- **Open Notepad:** Start Notepad on your computer to begin writing your program.
- **Hello World Program**
 - In Notepad, write your first Hello World Java program as below:

```
public class Lab1Q1 {  
  
    public static void main(String[] args) {  
  
        System.out.println("Hello World! - ITxx xxx xxx");  
  
    }  
}
```

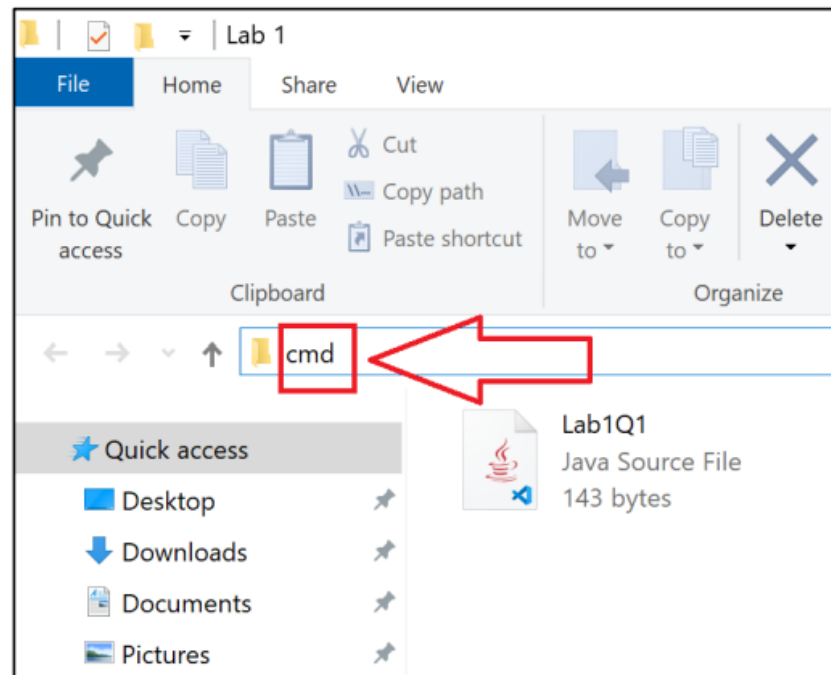


- Replace 'ITxx xxx xxx' in line 3 above code with your own Student ID.
- Save this file inside 'Lab 1' folder as: **Lab1Q1.java** make sure to select 'All files' under 'Save as type'.

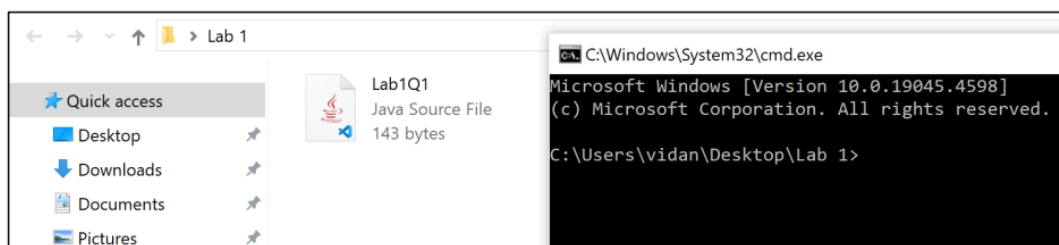


- **Open Command Prompt inside ‘Lab 1’ Folder**

- Inside ‘Lab 1’ folder, type **cmd** in the **address bar** of File Explorer and press Enter.

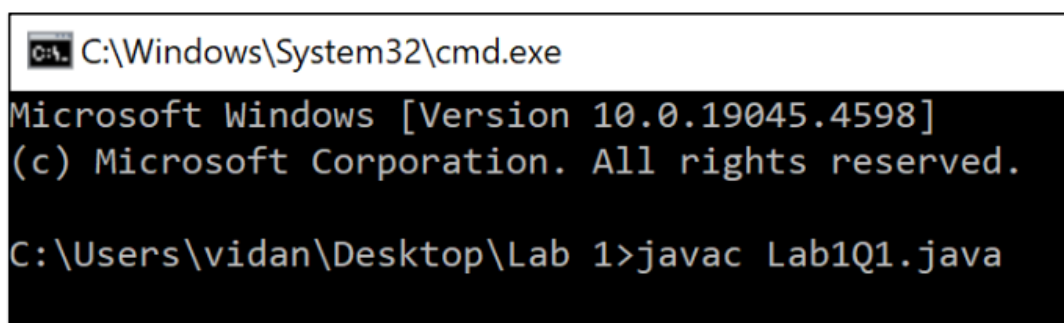


- This will open Command Prompt with the path set to the ‘Lab 1’ folder.



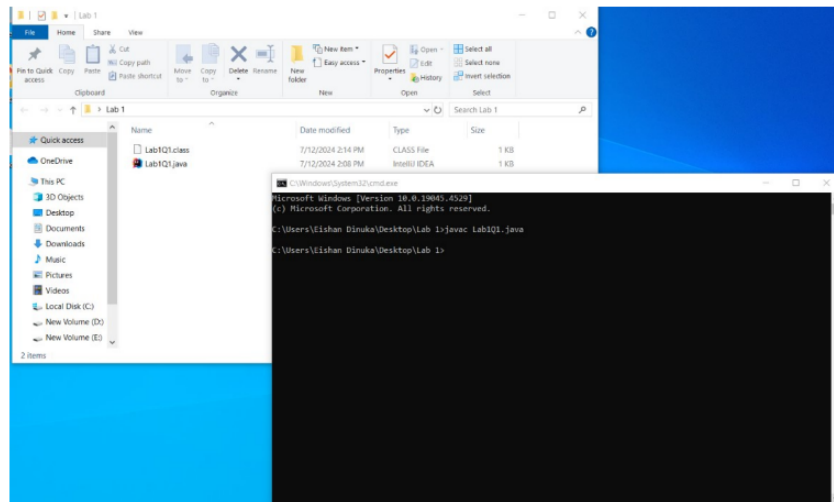
- **Compile the Program**

- Compile the Java program typing: **javac Lab1Q1.java**



- **Generated Byte Code (.class file):**

- Verify that **Lab1Q1.class** appears in the directory indicating successful compilation.



- **Run the Program:**

- In CMD, type: **java Lab1Q1** to run your program.
- Confirm displayed output.

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.4529]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Eishan Dinuka\Desktop\Lab 1>javac Lab1Q1.java

C:\Users\vidan\Desktop\Lab 1>java Lab1Q1
Hello World! - ITxx xxx xxx

C:\Users\vidan\Desktop\Lab 1>
```

Finally, you need to upload the Java source file to GitHub Repository (next page).

Part C – Lab Submission to GitHub

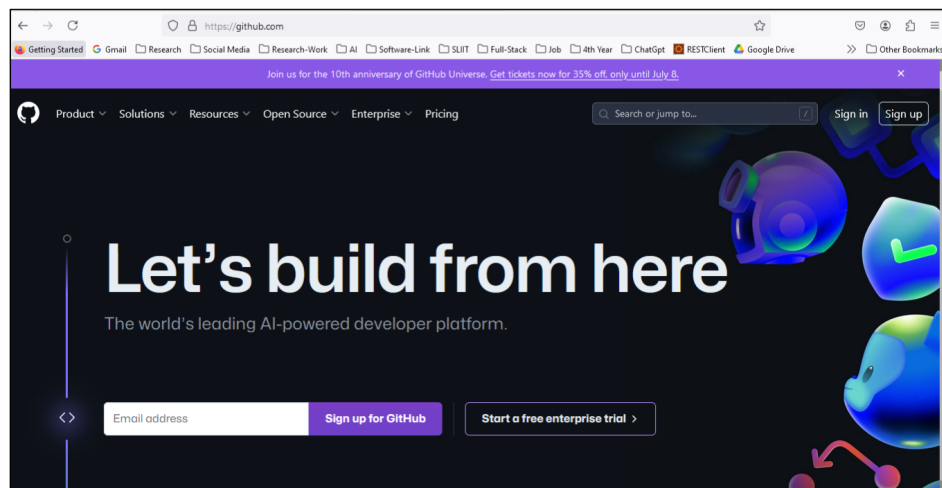
GitHub Account Creation

Step 1: Go to GitHub Website

- Open your web browser and navigate to: <https://github.com/>

Step 2: Sign Up

- Click 'Sign Up' button, typically located in the top right corner of the homepage.
- This will redirect you to the registration page.



Step 3: Signup Details

- **Email Address:** Enter a your SLIIT email address.
- **Password:** Create a strong password, ideally at least 15 characters long or at least 8 characters including a mix of letters, numbers, and symbols.
- **Username:** Enter your student ID as the username (e.g., IT2423233). **Make sure to type IT in CAPS of your Student ID**

Welcome to GitHub!
Let's begin the adventure

Enter your email*

Enter Your SLIIT Email Address (it2423233@my.sliit.lk)

Create a password*

✓

Enter a username*

Enter Your SLIIT Student Number (IT2423233)

Email preferences

☐ Receive occasional product updates and announcements.

Continue

By creating an account, you agree to the [Terms of Service](#). For more information about GitHub's privacy practices, see the [GitHub Privacy Statement](#). We'll occasionally send you account-related emails.

Step 4: Verify your Account

- Complete the CAPTCHA challenge to confirm that you are not a robot.

Welcome to GitHub!
Let's begin the adventure

Verify your account

Protecting your account

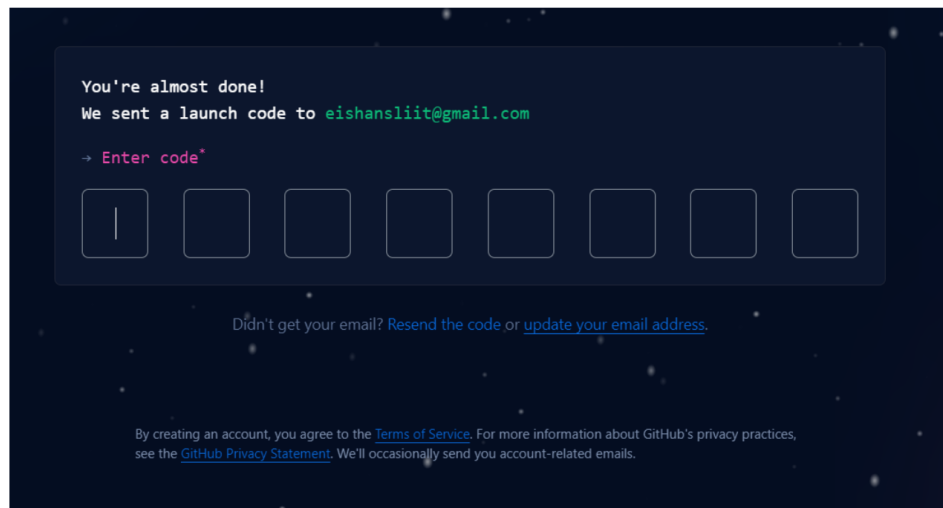
Please solve this puzzle so we know you are a real person

Verify

Audio

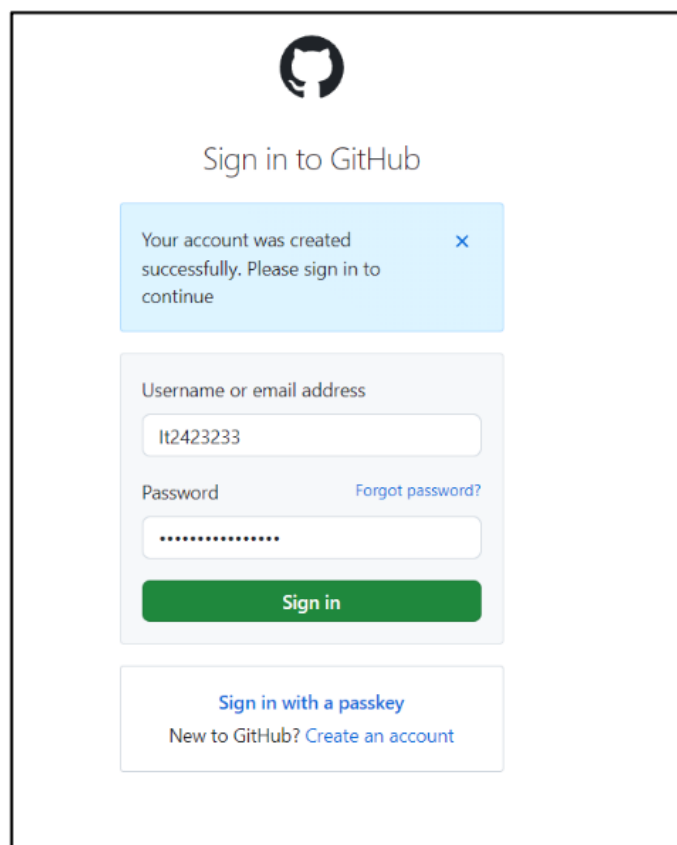
Step 5: Verify your Email address

- Check your email inbox for a verification email from GitHub.
- Click the provided link to verify your email address.



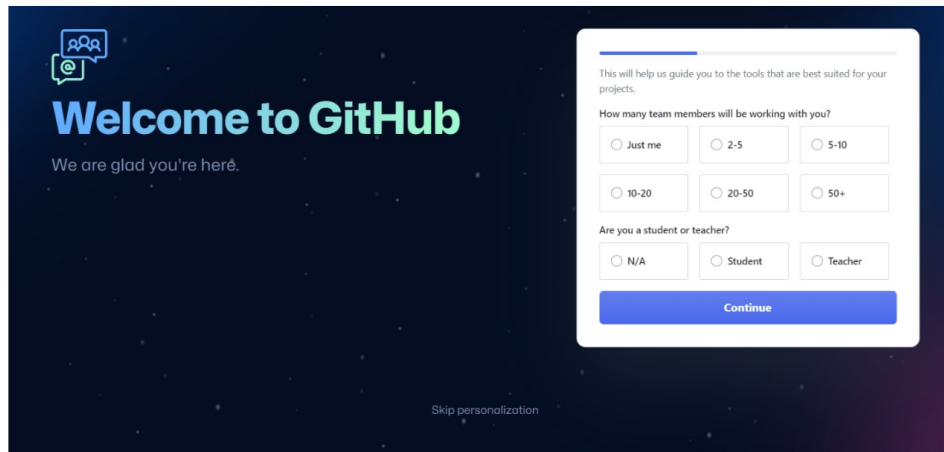
Step 6: Sign in to the GitHub

- Enter your username and password



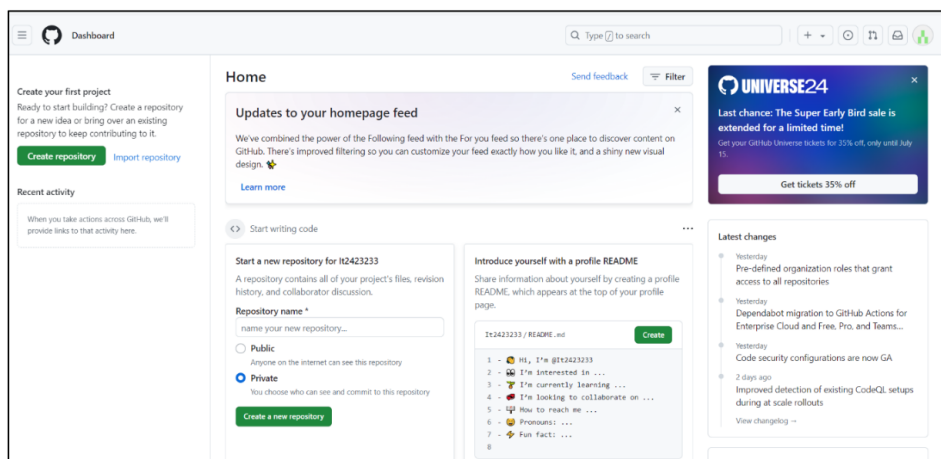
Step 7: Set up your Profile

- If you want, you can do the personalization for this account or you can skip this step by clicking the skip personalization.



Step 8: Start using GitHub

- Your account is now ready. You can begin by creating repositories, participating in projects, and exploring the work of other GitHub users.



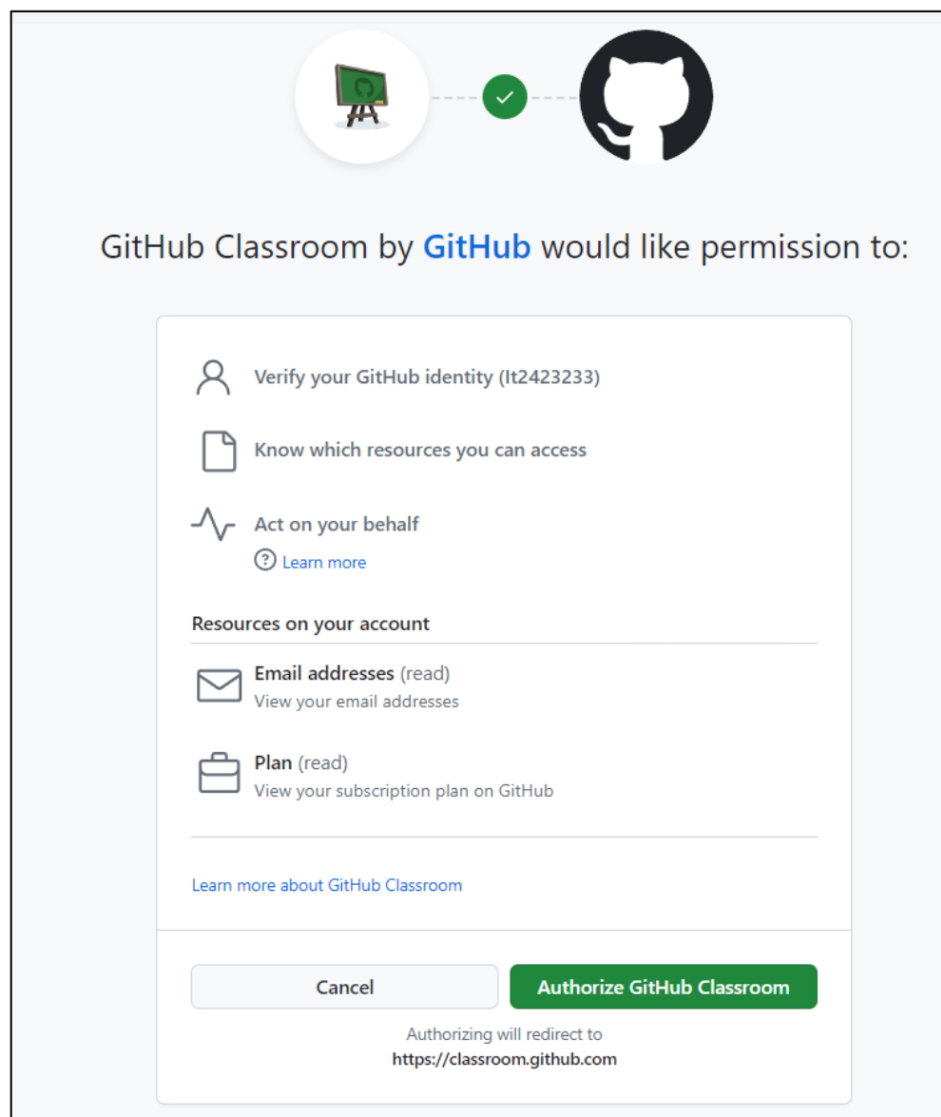
Submitting Lab Source Files to GitHub

Step 1: Open the Assignment Link

- Courseweb will provide the link to GitHub Classroom assignment submission page.

Step 2: Authorize GitHub Classroom

- If it's your first-time using GitHub Classroom, you may be prompted to authorize GitHub Classroom to access your GitHub account.
- Click on the '*Authorize GitHub Classroom*' button to proceed.



Step 3: Select the student IT Number in the list

Join the classroom:
IP-Test-Group-Name-Here

To join the GitHub Classroom for this course, please select yourself from the list below to associate your GitHub account with your school's identifier (i.e., your name, ID, or email).

[Can't find your name? Skip to the next step →](#)

Identifiers
IT1313136 >
IT1313137 >
IT1313138 >
IT1313139 >
IT1313140 >
IT1313141 >
IT2423233 >

Step 4: Accept the Assignment

- After Selecting the IT Number, you will be directed to the assignment acceptance page.
- Click on the *'Accept this assignment'* button.
- GitHub Classroom will start setting up your repository. This process may take a few moments.

IP-Test-Group-Name-Here

Accept the assignment —
IT1120 - Lab 01

Once you accept this assignment, you will be granted access to the `it1120-lab-01-It2423233` repository in the [SLIIT-IP](#) organization on GitHub.

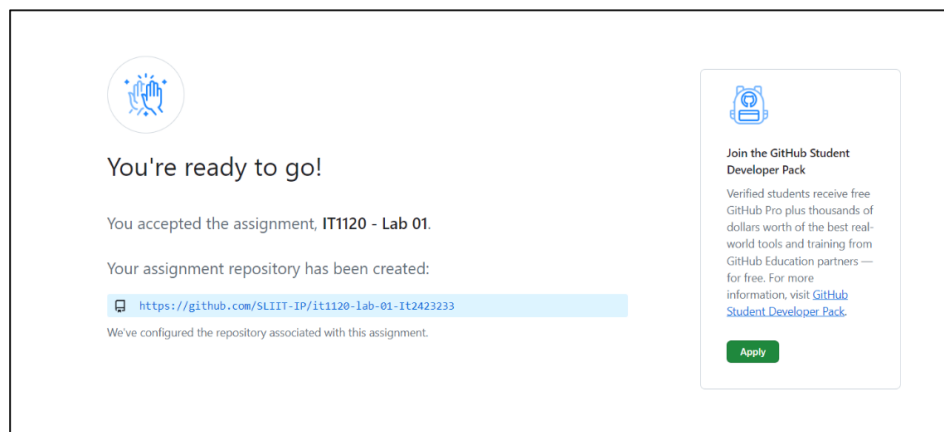
[Accept this assignment](#)

Step 5: Access Your Repository

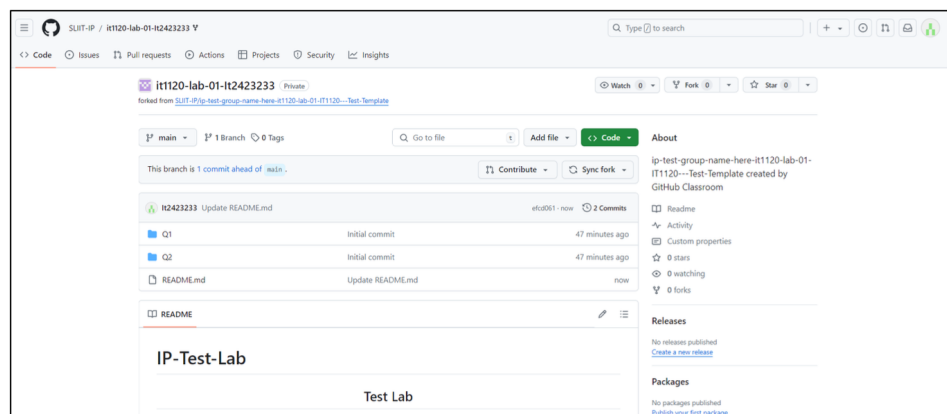
- The URL of your Git Repository will be in following format:
Here is the URL:

`https://github.com/organization_name/assignment_name-username`

- **Bookmark or save this URL for easy access in future lab submissions.**

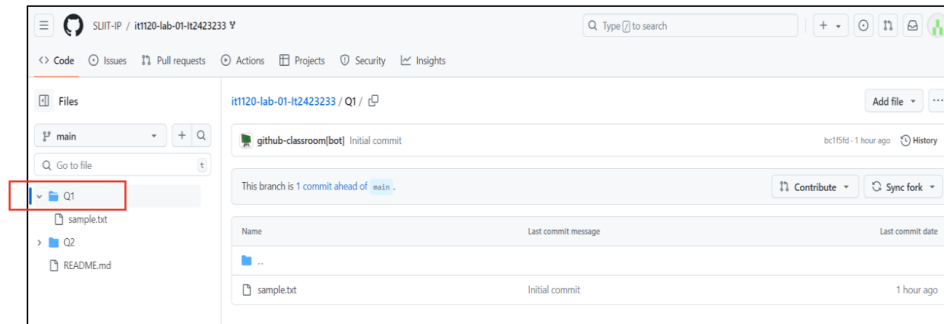


- Clicking the generated URL of your repository it will be redirected to your newly created GitHub repository



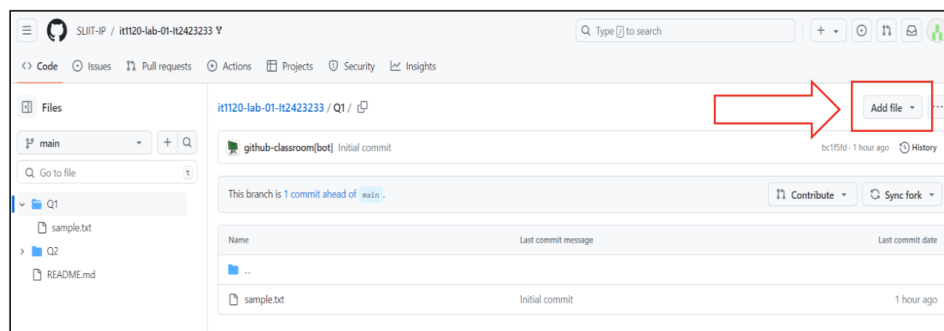
Step 6: Access the Folder you want to submit the answer

- In the repository, locate the 'Q1' folder by clicking on it. This will take you inside the folder.



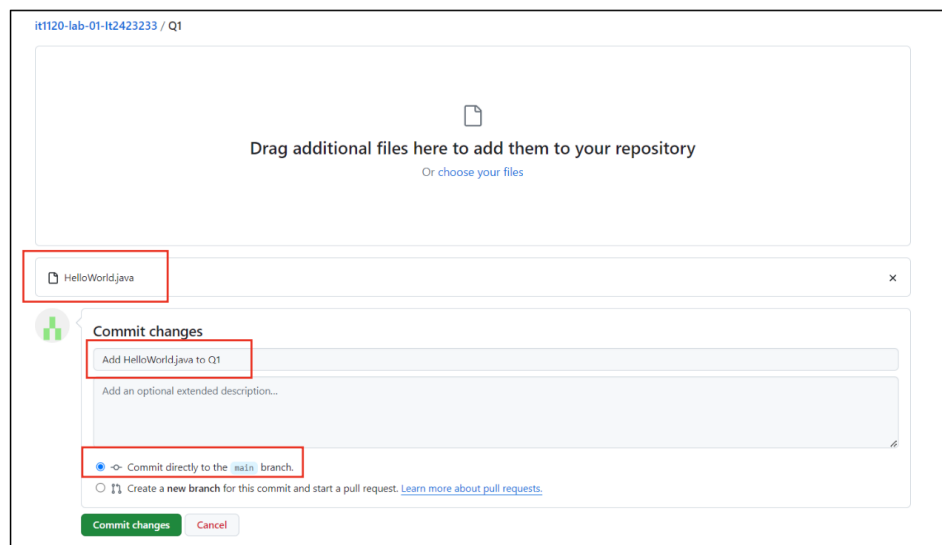
Step 7: Upload the Java Files

- Inside the 'Q1' folder, click on the 'Add file' button located at the top right corner.
- Choose 'Upload files' from the dropdown menu.
- Drag and drop your **Lab1Q1.java** file or select 'choose your files' link to navigate to your file saved in your computer.
- Once the file is selected, it will be uploaded to the GitHub Repository.



Step 8: Commit the File

- After uploading the file, you will be directed to a 'Commit change' section at the bottom of the page.
- Enter a commit message in the input box provided. Sample commit message could be something like: '**Add Lab1Q1.java to Q1**'.
- Ensure that you select '**Commit directly to the main branch**' option.
- Click on '*Commit changes*'.



Step 9: Verify Submission

- After committing the changes, GitHub will return you to the folder view where you can see your newly uploaded **Lab1Q1.java** file inside the 'Q1' folder.
- Make sure the file is correctly placed and contains the appropriate content.