**Github Tutorial**

Git is a version control system. Git helps you keep track of code changes.

Git is used to collaborate on code.

**Our Repository:**

[SowrabhiR/Group-I: A simple game for children aged under 10, developed using Unity. (github.com)](https://github.com/SowrabhiR/Group-I)

**SSH key creation:**

An *SSH key* is an access credential in the [**SSH protocol**](https://www.ssh.com/ssh/protocol/). Its function is similar to that of user names and passwords, but the keys are primarily used for automated processes and for implementing single sign-on by system administrators and power users.

In order to download the repository into your system, you need to create an SSH key. Once the SSH key has been created, two keys will be created namely – Public key and Private Key.

The public key should be added to the respective git repository. On trying to download repository to your machine, the private key in your system is matched with the added public key in the repository and that’s how the system knows that you are an authorised user and allows you to download code to your machine.

**SSH Key generation:**

* To generate SSH key, open the terminal and type the following commands.

1. To Create SSH key

ssh-keygen

1. Give Enter to take default file name
2. Give Enter to skip setting a pass phase

* Now, an SSH key has been generated. You can find it in the folder, /c/users/user/.ssh/. The folder has two files namely, id\_rsa and id\_rsa.pub, where id\_rsa.pub is the public key.
* To add the public key to the repository,

1. Open your GitHub repository in your web browser.
2. Under "Security" click on the "Deploy keys" tab item on the left side.
3. Click on "Add deploy key".
4. Give it any "Title" you wish.
5. In the "Key" text area, paste the contents of the public key file (~/.ssh/id\_rsa.pub by default).
6. Click on the "Add key" button

**Downloading Repository from Git:**

* To download the given repository, go to the desired location on your system, and enter the following command

Git clone [git@github.com:SowrabhiR/Group-I.git](mailto:git@github.com:SowrabhiR/Group-I.git)

* This creates a clone of the repository. The branch downloaded is *main* by default.

**Pushing Code to Git :**

*Note: Always create a new branch whenever you are pushing a new code. Never push the code onto the main branch.*

* Create and switch to a new branch

Git checkout –b <<branch-name>>

* Create a new branch every time you make changes, and make sure the branch-name is relevant to what changes you have made for easy integration and access.
* Now, Add/Modify/Delete the changes you want to make to the repository.
* Add the modified files to git.

Git add <<file1>> <<file2>>

* To check if your changes have been added, enter the following command.

Git status

* The above command shows the modified files that have been added in green colour.
* Now, we have to commit the added files

Git commit

* The above command opens a .vi document where you can type in your command message in the following format. The message can be anything, but for our coursework, it will be easier to understand if the commit messages have a description along with who pushed the changes.

Short description of what changes you have made

Name : <<your name>>

* Now, finally we can push our changes

Git push origin <<branch-name>>

**Merging branches to Main repository:**

git checkout main

git merge <<branch-name>>

git push origin main

*Never push to master unless someone from our team approves your changes.*