BSc (Hons) in Information Technology
Year 1-
Semester 2

Tutorial Week 1

IT1050 - Object Oriented Concepts — Semester 1, 2022

Objectives : Use the online programming Repl.IT and GitHub that is used for tutorials and to refresh the programming knowledge you have learnt in IT1010 – Introduction to Programming Environments

Why you are using GitHub : GitHub is used in OOC for you to submit code that you write. It is used by millions of developers to maintain their code. Most of the famous open source code is on GitHub. For instance the linux operating systems kernel is at https://github.com/torvalds/linux

Setting up GitHub and Repl.it is a one time process that you only need to do in Tutorial 01.

Each week you will get a link which will setup your tutorial questions in GitHub and you will learn how to use Repl.it to write code and upload your code to Github as a submission.

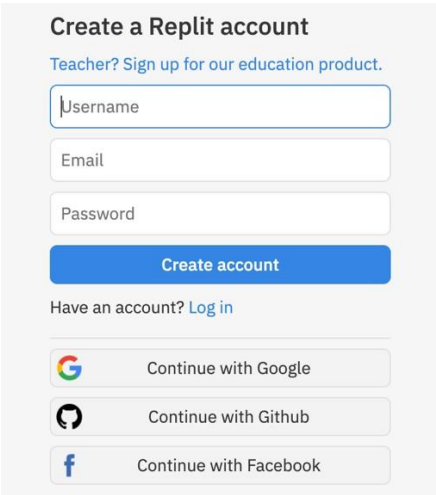
GitHub is a Git repository hosting service, but it adds many of its own features. This is used almost by every professional developer to store programming code they develop. GitHub uses Git which is a free and open source distributed version control system. By using Git a programmer can easily manage the code they write and it also provides a very convenient way of multiple developers (even thousands) to write code to a single programming project.

Exercise 0

a) Goto GitHub.com and create an account using your Student ID. Please use the user name as your Student id. Login to your GitHub account using the user name and password that you have given.

b) Goto Repl.IT

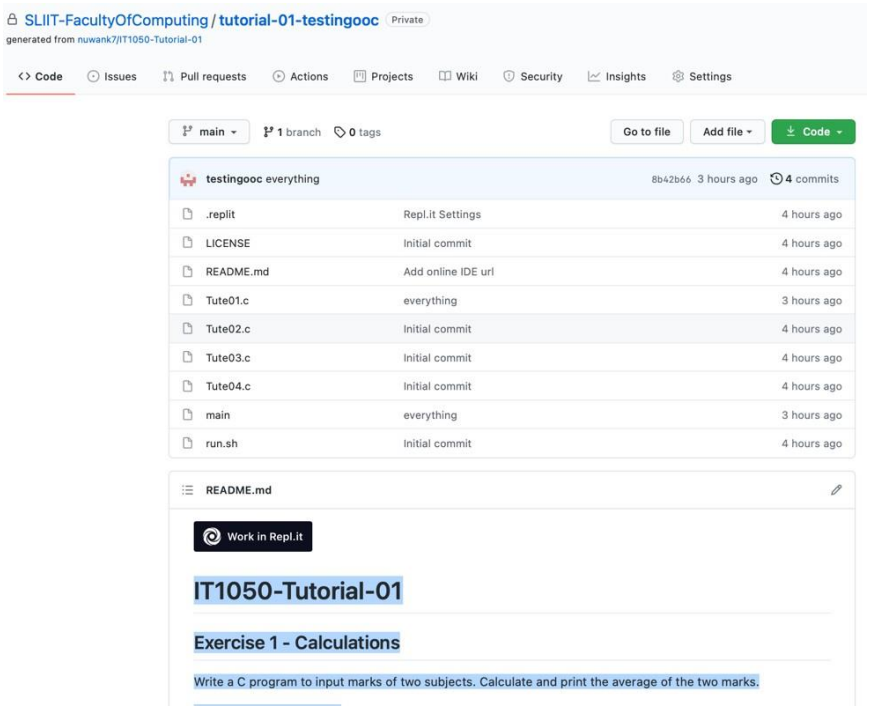
i) Logout from Repl.IT if you are already logged in
ii) Signup to Repl.IT from your GitHub Account (Select Continue with GitHub)



iii) if they ask you for your username, use your student id

c) Copy the following url to a new browser window.
https://classroom.github.com/a/RjiF1Gaz

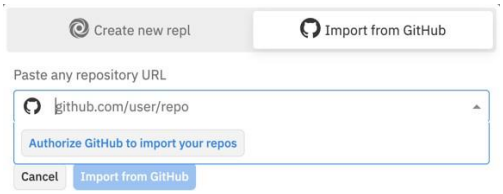
d) After a minute refresh your screen and to the GitHub Repository that has been created for you for Tutorial 01.



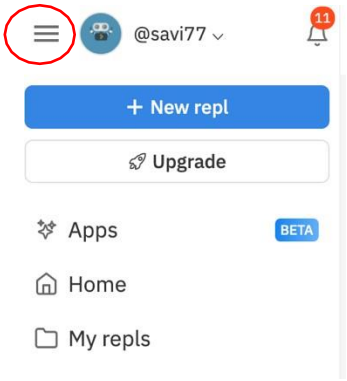
e) If you scroll down you should be able to see the 4 exercises that you need to complete. All programs should be written in C.

f) Goto your Rep.it account and open your GitHub repository in Rep.it

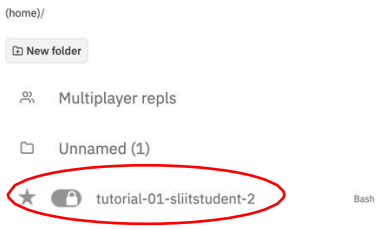
i) Copy the url of your Tutorial 01 Repo that was just created.
ii) Goto a new repl and select GitHub Repo



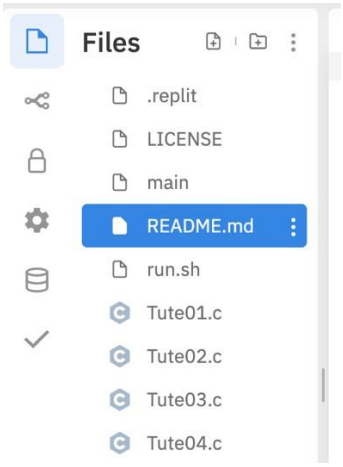
iii) Copy the GitHub url and select Import from Github
iv) You may need to Authorize Github to import your repos
v) This process may take time and some times crash, please ignore this if happens and goto the step (vii).
vi) If you get an error indicating that you can't use a private repository, please try to use the following link in step C - https://classroom.github.com/a/RjiF1Gaz (see page 1)
vii) You can access your GitHub repo in Repl.It by selecting the left hand menu and selecting My Repls



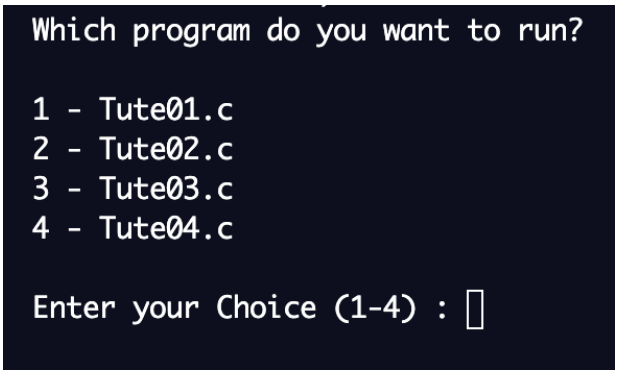
viii) Select your GitHub Repo. It should appear like this, names will be different



g) Complete the 4 exercises by selecting each of the partially completed program files, Tute01.c to Tute04.c

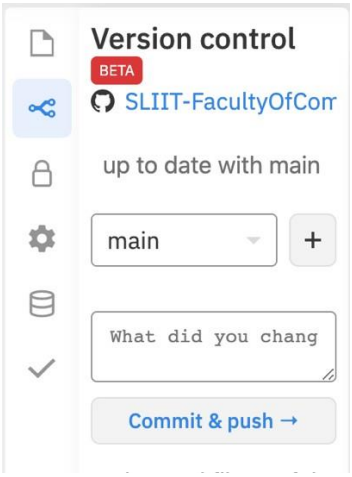


h) When running programs select which program you want to run from the console window.



i) Submitting your programs to GitHub. Once you have finished all the programs you can submit your code to GitHub by committing it.

i) Select the Git Version Control command options from Repl.it



ii) Type a message in "What did you change" text box and select Commit & Push.

iii) You can go back to your GitHub account and see if all the changes you have done has been updated.

Note : These steps might look difficult to you at first but this is how developers setup a code repository and write code. Both git and github are used almost by everyone in the industry to maintain code.

If you find the above steps are not working or too difficult you can tryout to do the exercises in normal Repl.it. But try to resolve the issues with your instructors during the Tutorial Session.

BSc (Hons) in Information Technology
Year 1

Tutorial Week 1

IT1050 - Object Oriented Concepts — Semester 1, 2022

Exercise 1 - Calculations

Write a C program to input marks of two subjects. Calculate and print the average of the two marks.

Exercise 2 - Selection

Write a program to calculate the amount to be paid for a rented vehicle.

- Input the distance the van has travelled
- The first 30 km is at a rate of 50/= per km.
- The remaining distance is calculated at the rate of 40/= per km.

e.g.

Distance -> 20
Amount = 20 x 50 = 1000

Distance -> 50
Amount = 30 x 50 + (50-30) x 40 = 2300

Exercise 3 - Repetition

Write a C program to calculate the sum of the numbers from 1 to n.
Where n is a keyboard input.

e.g.

n -> 100
sum = 1+2+3+... + 99+100 = 5050

n -> 1-
sum = 1+2+3+.. +10 = 55

Exercise 4 - Functions

Implement the three functions `minimum()`, `maximum()` and `multiply()` below the `main()` function.

Do not change the code given in the `main()` function when you are implementing your solution.

```
int main() {
   int no1, no2;
   printf("Enter a value for no 1 : ");
   scanf("%d", &no1);
   printf("Enter a value for no 2 : ");
   scanf("%d", &no2);
   printf("%d ", minimum(no1, no2));
   printf("%d ", maximum(no1, no2));
   printf("%d ", multiply(no1, no2));
   return 0;
}
```