

# Documentation For LBU Turtle Graphics Project & Game Project

## Overview:

This project has been regularly updated after each requirement completion. This project was developed on Visual Studio Code using Eclipse Temurin JDK version 21.0.6 with Hotspot.

This project includes:

- Turtle Graphics Project: Fulfills all the expected Requirements
- Game: A 2D Game. It is a part of Turtle Graphics Project as a sub requirement.

## Structure:

### Turtle Graphics Project

All of the requirements from Requirement 1 to 5 Has been completed along with some additional features such as "Help" , "gg" for game etc.

No additional libraries other than the LBU TurtleGraphics.jar and built-in Java libraries were used. This is designed to draw, move, save and load commands and images in the program. Carries about 90 marks.

### Components:

- 1 Basic Application -- completed ontime\
- 2 Command Processing -- completed ontime\
- 3 Validating Commands -- completed ontime\
- 4 Loading and Saving -- completed ontime\
- 5 Extending OOPGraphics library -- completed ontime\

### Game Project

A Sub project to meet the unique requirement that carries 10 marks. This is executed from the TurtleGraphics Panel by 'gg' command on the text box. It fulfills the bare minimum to do lists which I came up with. The game works well.

I used no external libraries for this other than the built in Java libraries.

For the game sound effects I used an opensource free software 'Audacity'. And royalty free songs.

### Component:

- |   |        |
|---|--------|
| - A square 2d block                           | --done |
| - Has x min time limit                        | --done |
| - Goal collect the things that spawn randomly | --done |
| - Those things despawn in 5 second            | --done |
| - Score board                                 | --done |
| - Collision sounds                            | --done |
| - Background sound                            | --done |

## Usage

### Running the main TurtleGraphics Project (TurtleGraphics.java):

Simply click run on the IDE editor of your choice with LBUGraphics.jar added to the References library list. Type 'Help' on the text field of the window to see all executable Commands.

### Running the main TurtleGraphics Project (Game.java):

In order to launch the Game.java file you must have the main turtle graphics window up and running then simply type in 'gg' in the text box. A pop up on how the game is played and what it's about will appear and click 'ok' this will start the game.

## KnowsIssues:

While there aren't any issues with the Turtle Graphics project an unexpected error might still occur. I have fixed all the issues as per the

Projects requirements. The 2D Game has one issue where the game background song continues to play so in order to make it stop, close the turtle graphics window.

### **Note:**

This Portfolio Project would not have been possible without the LBU and the online sources for learning..Thanks to all the free online learning sources as well as LBU libraries and documentations!

The reason for using online sources is mostly for Syntax. As a beginner in Java I believe it is fair for me to make use of available online resources for this purpose. In Programming, Syntaxes are what separates programming languages from one another. I have used Python, C++ and Rust so coming up with a programming logic(for Game.java & TurtleGraphics.java) is not very difficult for these assignments Fundamentally every programming languages are the same/similar with same/similar core concepts and only thing each one unique is with features and Syntax..

I do not support stealing others' work as well as encourage such behaviour and I do not act on it. After all, I don't like my hard work to be stolen and someone else gets credits for my hard work.

### **Reference/tutorial Sources:**

#### **Online learning Sites(Only for java Syntaxes):**

- Geeks For Geeks
- W3School
- Stack Overflow

#### **Online Youtube Learning Channels(mainly for making the game):**

- BroCode (Learned: Creating Timer in java + Edge Detection)
- RyiSnow (I only looked at their impressive work)
- macheads101 (Learned: Action key listener for an object)

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