Swinburne University of Technology Sarawak

COS10009 Introduction to Programming

Graphical User Interface (Lab 04)

Pass Task 4.1 Shape Drawing

Task: Create a program that calls procedures to draw a picture to a window.

To Do:
For this task you will create a program that draws a scene using primitive shapes (triangles, rectangles, and circles).
The goal of this exercise is to learn a little about how to create a program using either the SDL libraries. SDL is a development environment that makes it easy to create programs that use graphics, sounds, animations, networking, and other aspects relevant to creating small interactive games.

1. Download the 4_1.c from Pass Task 4 Resources folder. This contains some example code you can use to get started.
2. Extract the zip file to your code directory (e.g. Documents/Code)
3. Modify either of the programs so as to produce your desired drawing.

■ Use the following site to select colours for the circle (which uses RGB values):
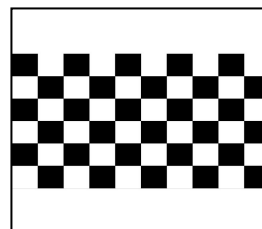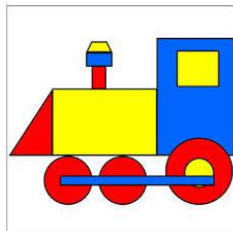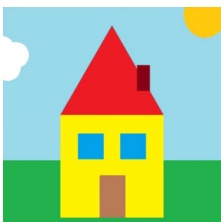https://www.rapidtables.com/web/color/RGB_Color.html

■ Useful link for shapes drawing in SDL library:
SDL_RenderFillRect() https://wiki.libsdl.org/SDL_RenderFillRect

SDL_RenderDrawLine https://wiki.libsdl.org/SDL_RenderDrawLine

SDL_RenderDrawRect https://wiki.libsdl.org/SDL_RenderDrawRect

Samples (Please produce your own drawing):

Pass Task 4.2 SDL Animation

Task: This program will allow you to use the SDL loop to manipulate moving widgets on the screen.

To Do:

You must enhance the code in 4_2.c (provide in this task's resources) and perform the following:

1. Add and implement drawing functions
2. Add and implement animation logic

Pass Task 4.3 SDL Keyboard Inputs and Moving Shapes

Task: Modify the source code to move a shape across the screen control by arrow keys on the keyboard.

To Do:
Use the code provided in 4_3.c (from this task's resources folder) to get started. You must enhance the code provided as follows:

1. The shape also can be moved up and down
2. The shape does not move out of the window area