

# CG 200 Computer Graphics Assignment 2

Assignment Semester 2, 2016

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## **Submission**

This submission includes the following:

- C Source Files – main.{c,h}, shape.{c,h}, render.{c,h}
- Makefile
- README.txt
- Report.pdf
- Assignment Cover Sheet

## **System Overview**

This assignment uses C Programming Language. It does not very complicated object or finishing created using external tool. It started with camera placing at  $z = 20$ , which means I have placed the camera 20 units in front all the objects for better vision. For the animation part, I use similar algorithm for each of them for animation simplicity, however they all have different animations.

It has several functions which make this assignment up:

- Callback functions like main loop, key operation and display key.
- Functions for drawing like drawOval, drawCircle, drawPyramid and more.
- Other disabled default functions like:
  - GL\_LIGHTING – enables light throughout the entire program.
  - GL\_COLOR\_MATERIAL – enables object to have their colours when lights are enabled.
  - GL\_DEPTH\_TEST – enables depth buffering for draw objects

## **Objects Creation and Animation**

In this assignment, I have created 6 objects – 4 simple objects and 3 composite objects.

Floor

- A simple sea floor using GL\_QUADS

Bubbles

- Water bubbles using solid sphere with animation of running up

Chest Box

- Box using solid cube

Pyramid

- Draw pyramid using 4 GL\_TRIANGLES ( four faces )

#### Sea Flower

- It is a composition of cylinder, sphere and oval shape with animation of rotating the paddle

#### Sea Turtle

- It is made using oval, sphere and lines with animation of running towards the screen

#### Diver

- Lines and rectangle are all I need to draw the diver with animation of swimming from right to left