# CS3241 Lab 1
# Doodle

# Setting up OpenGL (VS2008)

- In this module we will use VS2008 or VS2010 for assignments
- Put glut.dll and glut32.dll in “C:\windows\system” and “C:\windows\sytem32” respectively
- Put glut.h in “C:\Program Files\Microsoft Visual Studio 8.0\VC\include\GL”
- Put glut.lib and glut32.lib in “C:\Program Files\Microsoft Visual Studio 8.0\VC\lib”

# Opening Lab 1

1. Download the .zip file from IVLE workbin
2. Unzip it into a directory
   - You can first play around with **`sample.exe`**
3. Follow the instruction to open the solution file
4. Click “Build”

# Drawing a Disk

- Look for the function **`display()`** in main.cpp
- Draw a disk with radius 1 and center at (0,0)

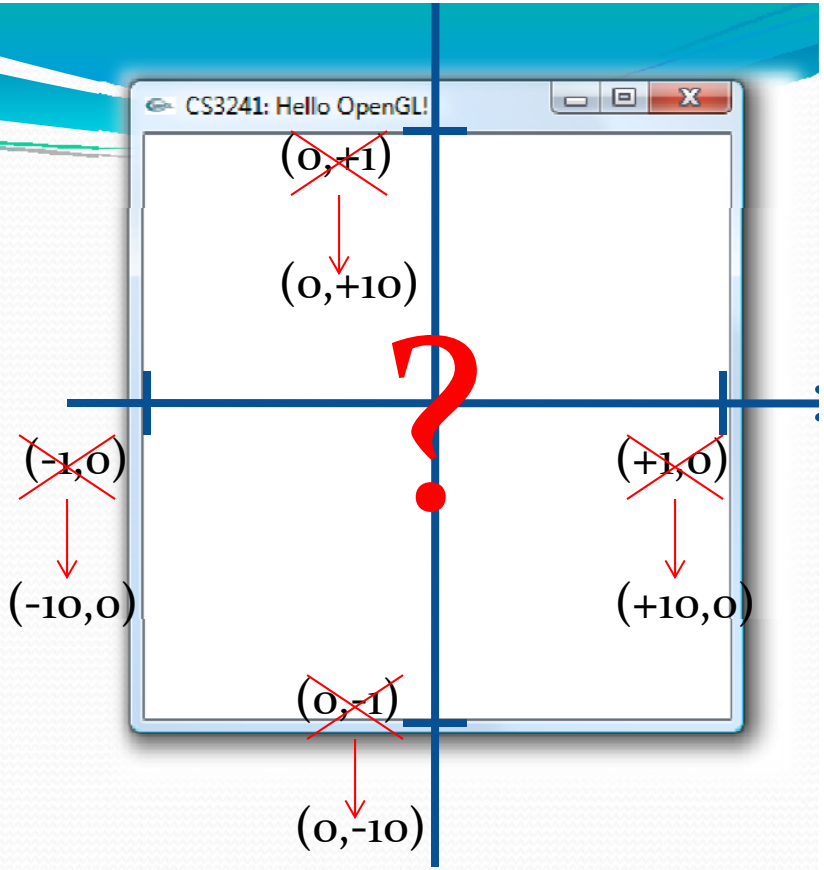
```
int i;
glColor3f(0,1,0);
   glBegin(GL_POLYGON);
     for(i=0;i<20;i++)
        glVertex2f(sin(2.0*M_PI*i/20.0),
                   cos(2.0*M_PI*i/20.0));
   glEnd();
```

# glOrtho

- The disk is supposed to have radius 1. Why is it so small?
- The function:

```
glOrtho(-10, 10, -10, 10, -10, 10)
```

- Changed the dimensions into 10 x 10 x 10 (x, y and z)



# Drawing a Circle

- Try changing **GL_POLYGON** into
  - **GL_LINE_STRIP** or **GL_LINE_LOOP**
- Draw a disk with radius 1 and center at (0,0)

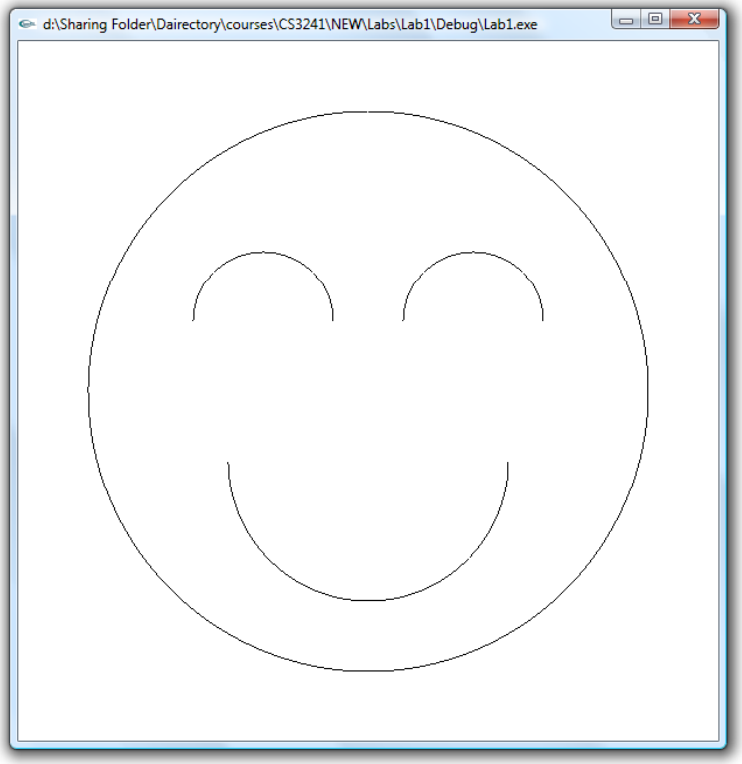
```
int i;
glColor3f(0,1,0);
   glBegin(GL_LINE_STRIP);
     for(i=0;i<20;i++)
        glVertex2f(sin(2.0*M_PI*i/20.0),
                   cos(2.0*M_PI*i/20.0));
   glEnd();
```

# Function drawArc()

```
void drawArc(double cx, double cy, float r,
             int startDeg, int endDeg)
{
  int i;
  glColor3f(0,0,0);
  glBegin(GL_LINE_STRIP);
    for(i=startDeg;i<=endDeg;i++)
      glVertex2f(cx+r*sin(2.0*M_PI*i/360.0),
                 cy+r*cos(2.0*M_PI*i/360.0));
  glEnd();
}
```

# Try drawing this

```
drawArc(0,0,8,0,360);
drawArc(3,2,2,-90,90);
drawArc(-3,2,2,-90,90);
drawArc(0,-2,4,90,270);
```



# About HW1

- Make sure you did these when you submit
  - Able to be compiled by the lab machines!!!
    - Complied in RELEASE mode
  - All the function keys (Q,E, etc.) still work probably for your work
  - “Clean” the solution
    - You can delete the .pcb file after cleaning to reduce the file size
  - Write a text file include your work’s information
    - (see the lab instruction)
  - Zip all your files up, rename it into your student number + “.zip” and submit it up to IVLE