

OpenGL Lab#2

(draw objects,
vertices 이용 그림그리기)

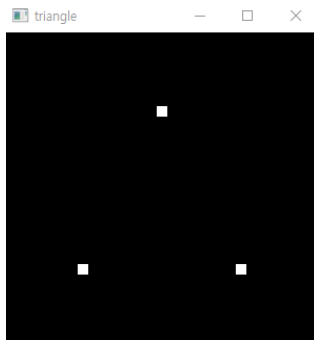
Computer Graphics

Vertex 이용하여 그리기

```
vertices = ((0.5, -0.5, 0)
            ,(-0.5, -0.5, 0)
            ,(0, 0.5, 0))
```

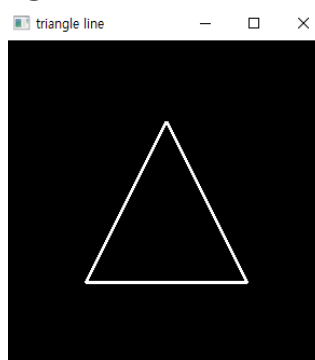
Point:

```
glPointSize(10)
glBegin(GL_POINTS)
glVertex3f(*vertices[0])
glVertex3f(*vertices[1])
glVertex3f(*vertices[2])
glEnd()
```



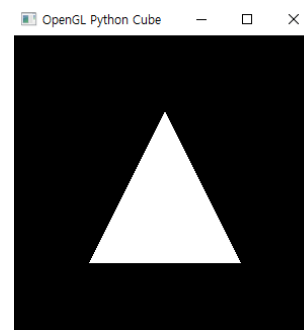
Line:

```
glLineWidth(3)
glBegin(GL_LINES)
glVertex3f(*vertices[0])
glVertex3f(*vertices[1])
glVertex3f(*vertices[1])
glVertex3f(*vertices[2])
glVertex3f(*vertices[2])
glVertex3f(*vertices[2])
glVertex3f(*vertices[0])
glEnd()
```



face:

```
glBegin(GL_TRIANGLES)
glVertex3f(*vertices[0])
glVertex3f(*vertices[1])
glVertex3f(*vertices[2])
glEnd()
```



Rectangle

```
from OpenGL.GL import *
from OpenGL.GLUT import *
from OpenGL.GLU import *
```

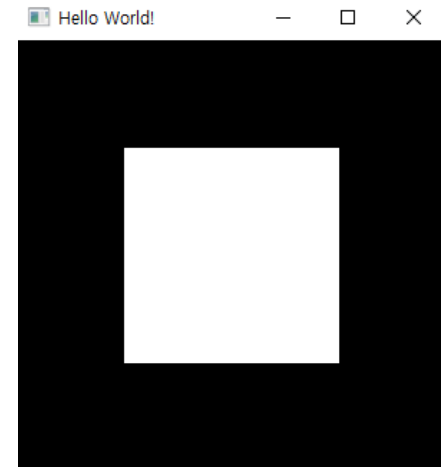
전역 변수로 vertices 추가

```
def MyDisplay():
    glClear(GL_COLOR_BUFFER_BIT)
    glColor3f(1.0, 1.0, 1.0)
    glRectf(-0.5, 0.5, 0.5, -0.5)
    glFlush()
```

이부분을 points, line, face 그리기로 교체

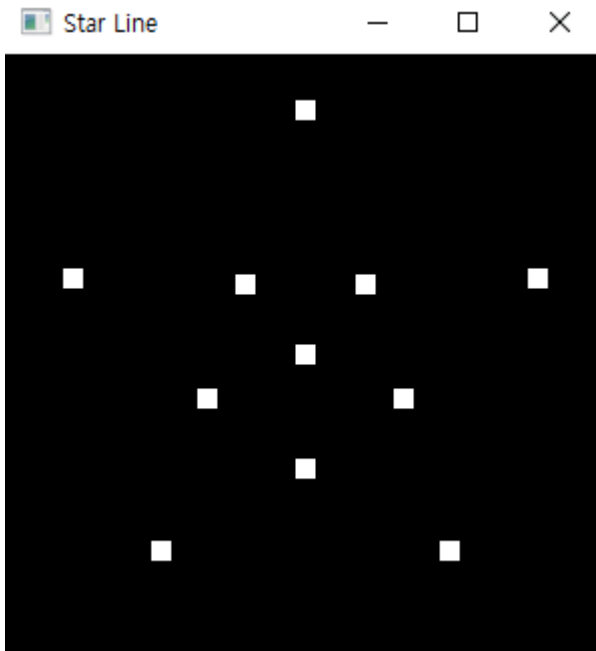
```
def main():
    glutInit(sys.argv)
    glutCreateWindow('Hello OpenGL!')
    glClearColor(0.0, 0.0, 0.0, 1.0)
    glutDisplayFunc(MyDisplay)
    glutMainLoop() glutDisplayFunc(MyDisplay)
```

```
if __name__ == "__main__":
    main()
```

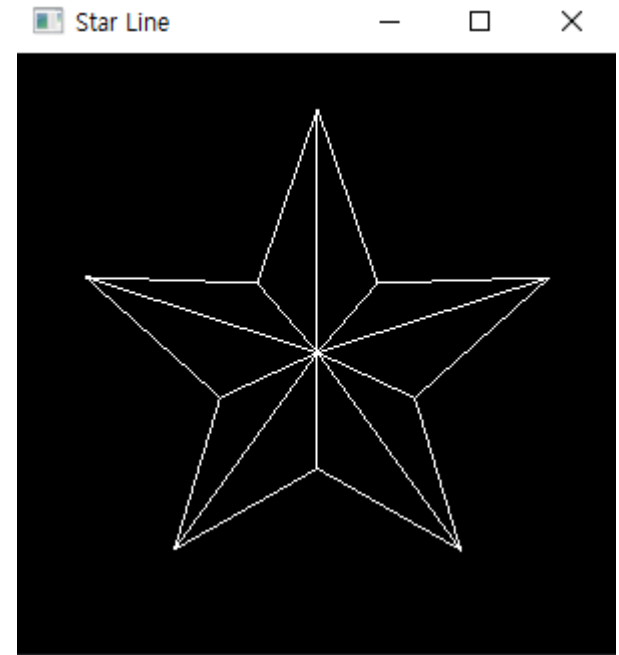


Lab#2-1

- 주어진 vertex로 (총29개) 아래 모양 그리기
line 그리기 이용



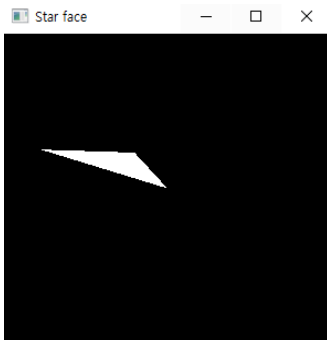
Vertices 를 points로 표현한 모습



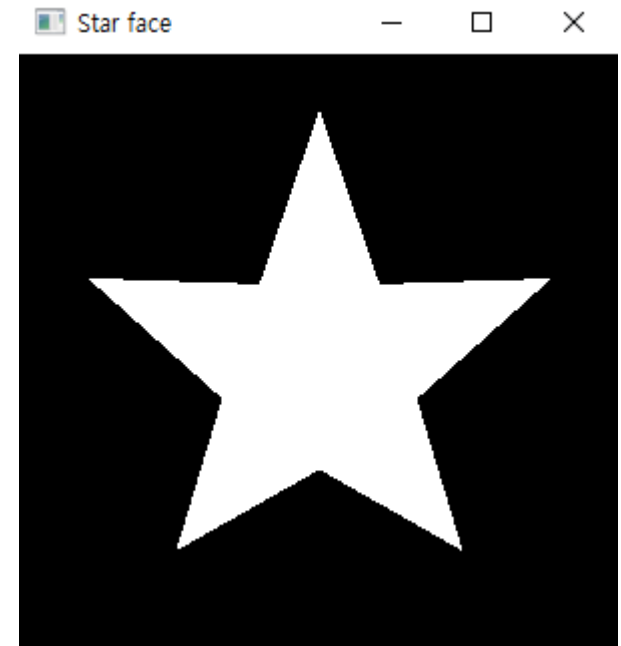
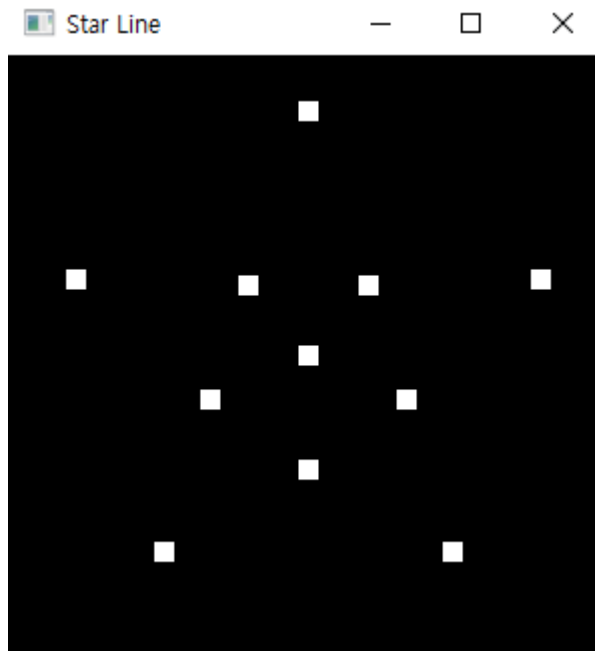
Lab#2-2

- Star vertex로 아래 모양 그리기
face 그리기 이용

Vertices 의,
처음부터 3개의 쌍이 한 개의 삼각형이 됨



0, 1, 2 번째 vertex로
face를 그린 모습



제출

- 보고서 내용 (pdf)
 - 문제에서 요구하는 각 세부 기능 설명
 - 기능별 실행 화면 캡처
 - 전체 프로그램 코드
- 보고서 pdf (lab0#_학번_이름.pdf)
- 실행파일 (lab0#_학번_이름.py)
- 위의 2개 파일을 zip으로 압축(lab0#_학번_이름.zip)