First-Assignment Questions

Subject: Computer Graphics Sem:V B.E.(CS&E)

Note: Assume the data suitably.

Q 1. Write the C/C++ program using OpenGL library, to draw pie chart/bar chart of your day activity.
Q 2. Extend Bresenham's line algorithm to generate lines with any slope, taking symmetry between quadrants into account.
Q 3. Write the C/C++ program using OpenGL library, to draw a House with following line styles and widths.

(i) Line with double-width dash-dot pattern
(ii) Line with single-width dash pattern
(iii) Line with triple-width dot pattern

Q 4. Derive decision parameters for the midpoint ellipse algorithm assuming the start position is (r_x, 0) and points are to be generated along the curve path in counter-clockwise order.
Q 5. Use the midpoint method to derive decision parameters that can be used to generate straight-line segments with any slope.
Q 6. Calculate the points to draw a circle having radius = 5 and center as (0, 0).
Q 7. Write the algorithm for filling polygons using 8-connected and explain it with suitable example.
Q 8. The input ellipse parameters are r_x=8 and r_y=6. Using midpoint ellipse method, rasterize this ellipse.