Computer Graphics Assignment

1. Draw the circle with r=12 using Bresenham algorithm and Draw the circle with r=14 and center at (15, 10).
2. Draw the ellipse with $r_x = 6$, $r_y = 8$.
3. Draw the ellipse with $r_x = 14$, $r_y = 10$ and center at (15, 10).
4. Consider a line from A (5, 7) to B (10, 15). Use the DDA line drawing algorithm rasterize the line from A to B. Draw the pixel wise rasterization of Line.
5. Given a circle C with radius 10 and center coordinates (1, 4).Apply the translation with distance 5 towards X axis and 1 towards Y axis .Obtain the new coordinates of C without changing its radius.
6. Given a square with coordinate points A(0,3), B(3,3), C(3,0), D(0,0).Apply the translation with distance 6 towards X axis and 3 towards Y axis. Obtain the new coordinates of the square.
7. Given a triangle with corner coordinates (0, 0), (1, 0) and (1, 1).Rotate the triangle by 30 and 45 degree anticlockwise direction and find out the new coordinates.
8. Show that the composition of two rotations is additive by concatenating the matrix representations for R (β1) and R (β2) to obtain R (β1). R (β2) = R (β1) + R (β2).
9. Discuss on shearing and reflection transformation in 2D and 3D
10. Perform Rotation transformation over a cube 'OABCDEFG' and rotate it through 45 degree in the anticlockwise direction about the y-axis. Given fig1 below