

Experiment – 3

Theory:

There are several circle drawing algorithms used in computer graphics, each with its own advantages and disadvantages. Here are brief descriptions of a few popular algorithms:

1. Midpoint Circle Algorithm: This algorithm is one of the most popular circle drawing algorithms. It is based on the concept of finding the nearest integer pixel coordinate to the ideal circle path at each step, and is faster than other circle drawing algorithms. This algorithm uses integer arithmetic and is therefore faster and more efficient than algorithms that require floating-point calculations.
2. Bresenham's Circle Algorithm: This algorithm is based on the Bresenham line drawing algorithm and is more efficient than the midpoint algorithm. It uses integer arithmetic to avoid the need for floating-point calculations, making it faster. The algorithm works by determining the most suitable pixel for drawing the circle at each stage of the process, which minimizes the error that accumulates over the circle.

In summary, there are several circle drawing algorithms available, each with its own advantages and disadvantages. The choice of algorithm will depend on the specific needs of the application and the desired trade-off between speed and accuracy.