MIDPOINT CIRCLE DRAWING ALGORITHM

```
#include <graphics.h>
#include <stdlib.h>
#include <stdio.h>
void drawCircle(int xc, int yc, int r) {
int x = 0, y = r;
int p = 1 - r; // Initial decision parameter
// Plot points for each octant
while (x <= y) {
    // Drawing points in all eight octants
    putpixel(xc + x, yc + y, WHITE);
    putpixel(xc - x, yc + y, WHITE);
    putpixel(xc + x, yc - y, WHITE);
    putpixel(xc - x, yc - y, WHITE);
    putpixel(xc + y, yc + x, WHITE);
    putpixel(xc - y, yc + x, WHITE);
    putpixel(xc + y, yc - x, WHITE);
    putpixel(xc - y, yc - x, WHITE);
    x++; // Increment the x value
// Update decision parameter
    if (p < 0) {
    p = p + (2 * x) + 1; // Inside the circle
    } else {
    y--; // Move down to the lower row
    p = p + (2 * x) - (2 * y) + 1; // Outside the circle
    }
}
}
int main() {
int gd = DETECT, gm;
// Initialize graphics mode
initgraph(&gd, &gm, "C:\\Turboc3\\BGI");
int xc, yc, r;
printf("Enter the center coordinates (xc, yc): ");
```

```
18.     scanf("%d %d", &xc, &yc);
19.     printf("Enter the radius: ");
20.     scanf("%d", &r);
21.     drawCircle(xc, yc, r); // Invoke drawing function
22.     delay(50); // Display for 5 seconds
23.     getch();
24.     closegraph(); // Close graphics mode
25.     return 0;
26.     }
```