MID – POINT CIRCLE ALGORITHM

Mid-Point Circle (X_c, Y_c, R):

Description: Here $\mathbf{X_c}$ and $\mathbf{Y_c}$ denote the x – coordinate and y – coordinate of the center of the circle. **R** is the radius.

```
1.   Set X = 0 and Y = R
2.   Set P = 1 - R
3.   Repeat While (X < Y)
4.        Call Draw Circle(Xc, Yc, X, Y)
5.        Set X = X + 1
6.        If (P < 0) Then
7.             P = P + 2X + 6
8.        Else
9.             Set Y = Y - 1
10.            P = P + 2(X - Y) + 1
          [End of If]
11.       Call Draw Circle(Xc, Yc, X, Y)
     [End of While]
12.  Exit
```

Draw Circle (X_c, Y_c, X, Y):

```
1.   Call PutPixel(Xc + X, Yc, + Y)
2.   Call PutPixel(Xc - X, Yc, + Y)
3.   Call PutPixel(Xc + X, Yc, - Y)
4.   Call PutPixel(Xc - X, Yc, - Y)
5.   Call PutPixel(Xc + Y, Yc, + X)
6.   Call PutPixel(Xc - Y, Yc, + X)
7.   Call PutPixel(Xc + Y, Yc, - X)
8.   Call PutPixel(Xc - Y, Yc, - X)
9.   Exit
```