MID – POINT CIRCLE ALGORITHM

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

Description: Here X_c and 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(X_c, Y_c, 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(X_c, Y_c, X, Y)
   [End of While]
12. Exit

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

1. Call PutPixel(X_c + X, Y_c, + Y)
2. Call PutPixel(X_c – X, Y_c, + Y)
3. Call PutPixel(X_c + X, Y_c, – Y)
4. Call PutPixel(X_c – X, Y_c, – Y)
5. Call PutPixel(X_c + Y, Y_c, + X)
6. Call PutPixel(X_c – Y, Y_c, + X)
7. Call PutPixel(X_c + Y, Y_c, – X)
8. Call PutPixel(X_c – Y, Y_c, – X)
9. Exit