

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