

BRESENHAM'S CIRCLE ALGORITHM

Bresenham 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 $D = 3 - 2R$
3. Repeat While ($X < Y$)
4. Call Draw Circle(X_c , Y_c , X , Y)
5. Set $X = X + 1$
6. If ($D < 0$) Then
7. $D = D + 4X + 6$
8. Else
9. Set $Y = Y - 1$
10. $D = D + 4(X - Y) + 10$
- [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