Computer Graphics and Image Processing

(a) We wish to produce two algorithms: one which draws the outline of a circle and one which draws a filled circle.

(i) Describe an efficient algorithm which will draw a one-pixel wide outline of a circle of integer radius, $R$, centred on the origin. [10 marks]

(ii) Describe the modifications required to your algorithm to make it draw a filled circle. [3 marks]

(b) Given a function \texttt{drawline}(x_1,y_1,x_2,y_2), describe an algorithm for drawing a Bezier cubic curve to a specified level of accuracy using only straight lines. [7 marks]