Computer Graphics- Assignment

Mathematics and computer science (Taita Taveta University)

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Computer graphics- ASSIGNMENT.

QUESTION ONE

a) Explain what computer graphics standards are and using relevant examples, discuss the following computer graphics standards

b) Discuss the various types of frame buffers in computer graphics

c) Explain the effect of the following openGL commands for performing various transformations. Describe the meaning of the arguments.

(i) glTranslatef (0, 0, -3)

(ii)   glscalef (20, 0, 0, 1)

d) Given a screen of 8X6 inches as in the diagram below:

8 Inches

6 Inches
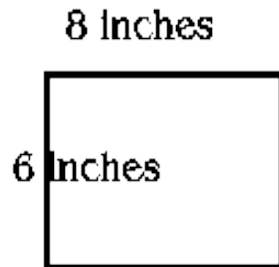
Calculate the horizontal and vertical resolution in pixels per inch if the resolution is 640 X 480 pixels

e) Explain the difference between; _clipping area_ and _viewport_

f) Describe the following terms as used in computer graphics
   (i) Fluorescence
   (ii)   Screen resolution
   (iii)   Color resolution

g) Briefly outline the Mid-Point Circle Algorithm. How is symmetry important to the algorithm?

h) Discuss the two types of projection used in computer graphics

QUESTION TWO

a) Using well labeled diagrams, distinguish between vector scan and raster scan displays.

b) Describe the following terms as used in computer graphics:

(i) Filled primitives
(ii)   Canvas
(iii)   aspect ratio

c) The figures below show elements of pictures in computer graphics, name and briefly describe each

d) Most graphics systems are fitted with a display processor. Explain the main function of the display processor and describe six other operations that are accomplished by the display processor

e) What are homogeneous coordinates? Using a relevant example, explain why they are important in computer graphics.

f) Using a relevant example, explain how Sutherland & Cohen subdivision line clipping algorithm works