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Introduction and Application

1.1 Introduction

Graphics is an image or a visual representation of an object and the visual representation or image displayed on a computer screen is known as computer graphics. More precisely, computer graphics is the field or branch of science and technology related to generation (creation), storage and manipulation of graphics (images or pictures) of objects using computer i.e. using hardware and software. Objects may be the concrete real world objects or the abstract and synthetic objects such as mathematical surface, engineering structure, architectural design, survey results, etc. In other word, graphics means to plot some points on graph to make an image. Computer graphics means to plot some pixels (points) on a computer screen to make an image. Pixel or picture element is the elementary part of the computer screen. We see every day the images created by using computer in books, magazines, movies, TV, etc.

Computer graphics is the rendering (servicing or making) tools for the generation and manipulation of images. These tools include both hardware and software.

Hardware comprises monitor, printer, plotter (that display graphics) and input devices includes mouse, light pen, keyboard, scanner, etc. Software tools refer to the collection of graphics routine.

Computer graphics = Data structure + Graphics algorithm + Language

Data structure means those data structure that are suitable for computer graphics. Graphics algorithm refers to algorithm for picture generation and transformation. Language means high level language for generation of graphics or pictures of objects.

Computer graphics can be either two-dimensional or three-dimensional. Digital graphic files are divided into two categories: