

Unit : 6

Pointers - Graphics

What are pointers?

- A **pointer** is a variable whose value is the address of another variable, i.e., direct address of the memory location. Like any variable or constant, you must declare a pointer before using it to store any variable address. The general form of a pointer variable declaration is –
- `type *var-name;`

- Here, **type** is the pointer's base type; it must be a valid C data type and **var-name** is the name of the pointer variable. The asterisk * used to declare a pointer is the same asterisk used for multiplication. However, in this statement the asterisk is being used to designate a variable as a pointer.

Operators

- * operator use to point any address.
- & operator use to access address of any variable

Graphics

- The first step in any graphics program is to initialize the graphics drivers on the computer using **initgraph** method of graphics.h library.
- It initializes the graphics system by loading the passed graphics driver then changing the system into graphics mode. It also resets or initializes all graphics settings like color, palette, current position etc, to their default values.

Draw Circle on screen

- we will draw a circle on screen having centre at mid of the screen and radius of 80 pixels. We will use **outtextxy** and **circle** functions of graphics.h header file. Below is the detailed descriptions of graphics functions used in this program

● Function

Description

initgraph

It initializes the graphics system by loading the passed graphics driver then changing the system into graphics mode.

getmaxx

It returns the maximum X coordinate in current graphics mode and driver.

getmaxy

It returns the maximum Y coordinate in current graphics mode and driver.

outtextxy

It displays a string at a particular point (x,y) on screen.

circle

It draws a circle with radius r and centre at (x, y).

closegraph

It unloads the graphics drivers and sets the screen back to text mode.

Enumeration data type

- An enumeration is a user-defined data type consists of integral constants and each integral constant is give a name. Keyword enum is used to defined enumerated data type.
- `enum type_name{ value1, value2,...,valueN };`

- Here, *type_name* is the name of enumerated data type or tag. And *value1*, *value2*,...,*valueN* are values of type *type_name*.
- By default, *value1* will be equal to 0, *value2* will be 1 and so on but, the programmer can change the default value.

Example

- `enum months { jan, feb, mar, apr, may, jun, jul, aug, sep, oct, nov, dec }`
- Index of jan is 0, february is 1 and so on.