experiment

COMPUTER GRAPICS AND MULTIMEDIA

# Aim

To Write a program in C for a digital clock.

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# **EXPERIMENT**

**AIM:**

Creating a Digital Clock using graphics in C Program.

## **Theory:**

**initwindow**

int initwindow(int width, int height, const char\* title="Windows BGI", int left=0, int top=0, bool dbflag=false, closeflag=true);

The function initializes the graphics system by opening a graphics window of the specified size. The first two parameters (width and height) are required, but all other parameters have default values.

**closegraph**

#include <graphics.h>

void closegraph(int wid=ALL\_WINDOWS);

closegraph deallocates all memory allocated by the graphics system, then restores the screen to the mode it was in before you called initgraph. (The graphics system deallocates memory, such as the drivers, fonts, and an internal buffer, through a call to \_graphfreemem.)

**void setcolor(int color);**

It is use to assign a color to graphics. In Graphics, each color is assigned a number. Total number of colors available are 16. Number of available colors depends on current graphics mode and driver. For example, setcolor(RED) or setcolor(4) changes the current drawing color to RED. Remember that default drawing color is WHITE.

**OUTTEXTXY**

In the Graphics mode, if a function is given to print any string that is done using outtextxy.

Prototype:

outtextxy (int x , int y , "Text");

x and y denote the current position and it is in pixel form.

**SETTEXTSTYLE**

The function setstextstyle() is used to set these three attributes of any text.

Prototype:

settextstyle(int font , int direction , int charsize);

settextstyle sets font, direction and char size of the text.

**time.h**

The time.h header file contains definitions of functions to get and manipulate date and time information.

It describes three time related datatypes.

clock\_t: clock\_t represents the date as integer which is a part of the calendar time.

time\_t: time\_t represents the clock time as integer which is a part of the calendar time.

struct tm: struct tm holds the date and time which contains int tm\_sec; int tm\_min; int tm\_hour;     int tm\_mday;  int tm\_mon; int tm\_year; int tm\_wday;  int tm\_yday; int tm\_isdst;

**time()** This function returns the calendar-time equivalent using data-type time\_t.

**strftime()** This function helps to format the string returned by other time functions using different format specifiers.

**Delay():**

delay function is used to suspend execution of a program for a particular time.

void delay(unsigned int);

**Digital Clock**

# **Source Code:**

#include<graphics.h>

#include <time.h>

int main(){

initwindow(1000, 500);

time\_t rawTime;

struct tm \* currentTime;

char a[100];

while(1) {

rawTime = time(NULL);

currentTime = localtime(&rawTime);

strftime(a, 100, "%I:%M:%S", currentTime);

setcolor(11);

settextstyle(3, HORIZ\_DIR, 10);

outtextxy(200, 100, a);

strftime(a, 100, "%p", currentTime);

settextstyle(3, HORIZ\_DIR, 2);

outtextxy(600, 8, a);

strftime(a, 100, "%a, %d %b, %Y", currentTime);

settextstyle(3, HORIZ\_DIR, 5);

outtextxy(130, 310, a);

delay(1000);

}

getch();

return 0;

}

## **Output:**





