



Experiment No. 10
Topic : Course Project.
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Date of Performance:
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Theory:

- For moving any object, we incrementally calculate the object coordinates and redraw the picture to give a feel of animation by using for loop.
- Suppose if we want to move a circle from left to right means, we have to shift the position of circle along x-direction continuously in regular intervals.
- The below programs illustrate the movement of objects by using for loop and also using transformations like rotation, translation etc.
- For windmill rotation, we use 2D rotation concept and formulas.

Program:

```
#include <stdio.h>
#include <graphics.h>
#include <dos.h>

int main() {
    int gd = DETECT, gm;
    int i, maxx, midy;

    /* initialize graphic mode */
    initgraph(&gd, &gm, "X:\\TC\\BGI");
    /* maximum pixel in horizontal axis */
    maxx = getmaxx();
    /* mid pixel in vertical axis */
```



```
midy = getmaxy()/2;

for (i=0; i < maxx-150; i=i+5) {
    /* clears screen */
    cleardevice();

    /* draw a white road */
    setcolor(WHITE);
    line(0, midy + 37, maxx, midy + 37);

    /* Draw Car */
    setcolor(YELLOW);
    setfillstyle(SOLID_FILL, RED);

    line(i, midy + 23, i, midy);
    line(i, midy, 40 + i, midy - 20);
    line(40 + i, midy - 20, 80 + i, midy - 20);
    line(80 + i, midy - 20, 100 + i, midy);
    line(100 + i, midy, 120 + i, midy);
    line(120 + i, midy, 120 + i, midy + 23);
    line(0 + i, midy + 23, 18 + i, midy + 23);
    arc(30 + i, midy + 23, 0, 180, 12);
    line(42 + i, midy + 23, 78 + i, midy + 23);
    arc(90 + i, midy + 23, 0, 180, 12);
    line(102 + i, midy + 23, 120 + i, midy + 23);
    line(28 + i, midy, 43 + i, midy - 15);
    line(43 + i, midy - 15, 57 + i, midy - 15);
    line(57 + i, midy - 15, 57 + i, midy);
    line(57 + i, midy, 28 + i, midy);
    line(62 + i, midy - 15, 77 + i, midy - 15);
    line(77 + i, midy - 15, 92 + i, midy);
    line(92 + i, midy, 62 + i, midy);
    line(62 + i, midy, 62 + i, midy - 15);
    floodfill(5 + i, midy + 22, YELLOW);
    setcolor(BLUE);
    setfillstyle(SOLID_FILL, DARKGRAY);
    /* Draw Wheels */
    circle(30 + i, midy + 25, 9);
    circle(90 + i, midy + 25, 9);
    floodfill(30 + i, midy + 25, BLUE);
    floodfill(90 + i, midy + 25, BLUE);
}
```



```
/* Add delay of 0.1 milli seconds */  
delay(100);  
}  
  
closegraph();  
return 0;  
}
```

Output:



Conclusion - Comment on :



1. Importance of story building
2. Defining the basic character of story
3. Apply techniques to these characters

The Moving Car Animation project in C demonstrates the versatility of the C programming language, showcasing its capability to handle not just system-level tasks but also graphical representations. Utilizing the Turbo C compiler's `graphics.h` and `dos.h` libraries, the project offers a simplistic yet effective animation of a car moving across a screen. The structured modular approach ensures clarity in design and functionality, allowing for potential scalability and modifications. This endeavor serves as a foundational step for beginners to grasp basic graphical programming concepts in C, emphasizing the importance of loops, graphical functions, and timing mechanisms in creating animations. The project is a testament to the fact that with basic tools and well-structured logic, one can produce visually engaging outcomes in programming.

Experiment No. 10 Mini Project