

8/23/2022

# FINAL TERM PROJECT REPORT

“National Martyrs' Monument”

## COMPUTER GRAPHICS [M]

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<b>Group</b>	05

**American International University-Bangladesh**

### Group Members Information:

Members Name	ID
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ASHESH DEB PRIOM	20-43698-2
NOBONITA NONDE	20-43819-2
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## Introduction:

Only vector images have been used in our computer graphics project. Keeping, in mind that raster images are only rasterized and then projected on the projector. Only raster images are shown on the projector whereas, raster images are made up of a series of pixels. Vector images, on the other hand, are created using geometrical mathematical formulas rather than pixels.

There are some basics tools that have been used in this project to draw National Martyrs' Monument.

GL (Open Graphics Library): It is a software interface to graphics hardware. The interface consists of over 250 different function calls which can be used to draw complex two and three-dimensional scenes from simple geometric primitives such as points, lines, and polygons.

GLU (GL Utilities): Miscellaneous functions dealing with camera set-up and higher-level shape descriptions

GLUT (GL Utility Toolkit): Window-system independent toolkit with numerous utility functions, mostly dealing with user interface.

`#include<stdlib.h>`: It is the header of the general-purpose standard library which includes functions involving memory allocation, process control, conversions and others.

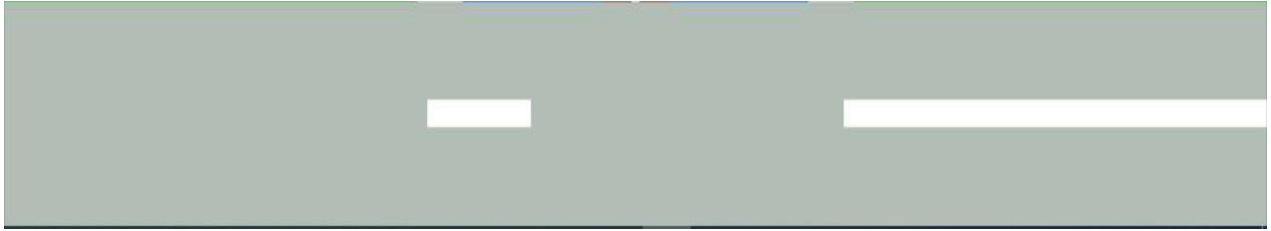
## Proposal:

### "National Martyrs' Monument"

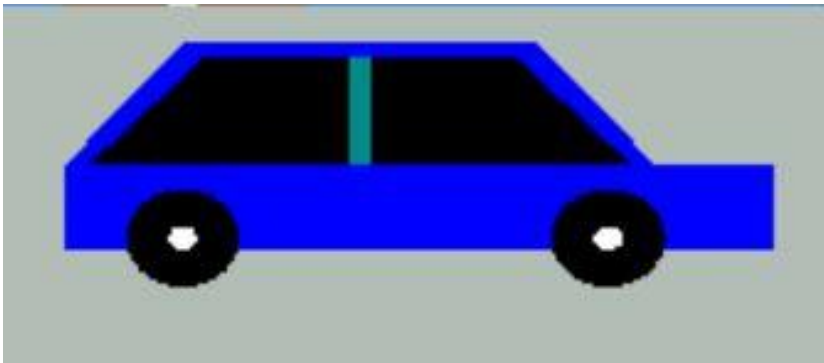
In this project, we design a scenario of National Martyrs' Monument. In this scenario, we have a memorial, moving car and a bus along the road. We also have enormous number of objects such as clouds, trees, stairs of memorial, lamps, pool, border of pool, flag, flower grasses, fields as well. Airplane flying in the sky. To complement the whole scenario, we have light blue skies at day and dark black at night. Another feature that's being added is the addition of rain by pressing 'r' from keyboard, we can change our scenarios from day to night by pressing keyboard 'd' for day and 'n' for night. With click of mouse the speed of the clouds and the birds will increase gradually. The sun is rotating, and at night we can see moon, stars.

## Schematic Diagram:

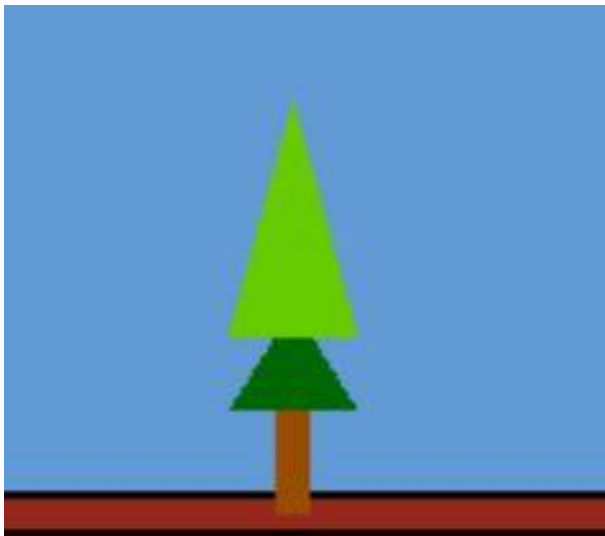
**Road:**



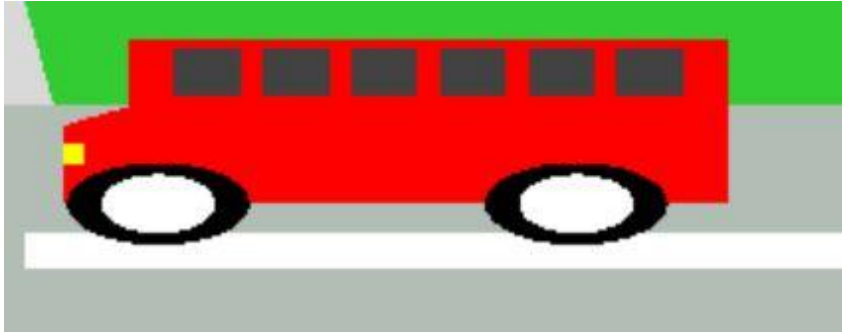
**Car:**



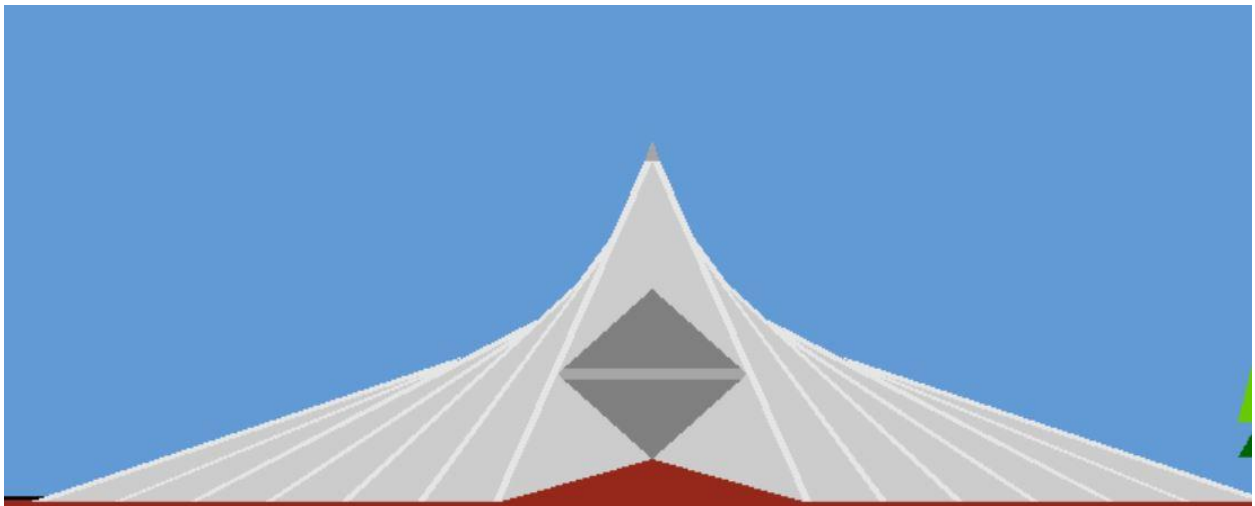
**Tree:**



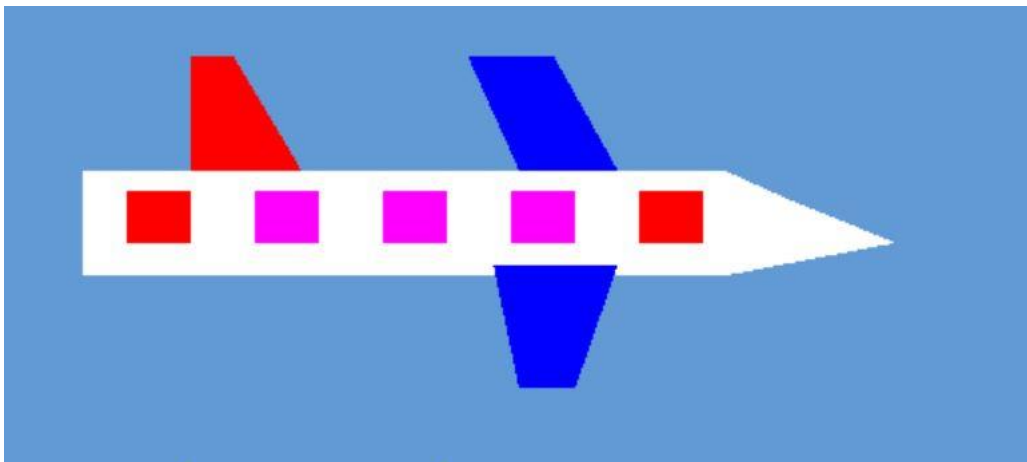
**MiniBus:**



Memorial:



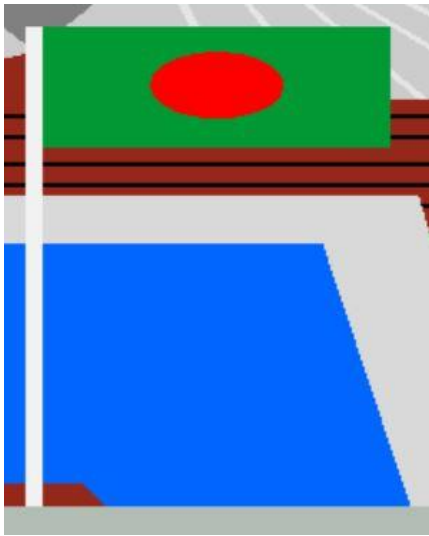
Airplane:



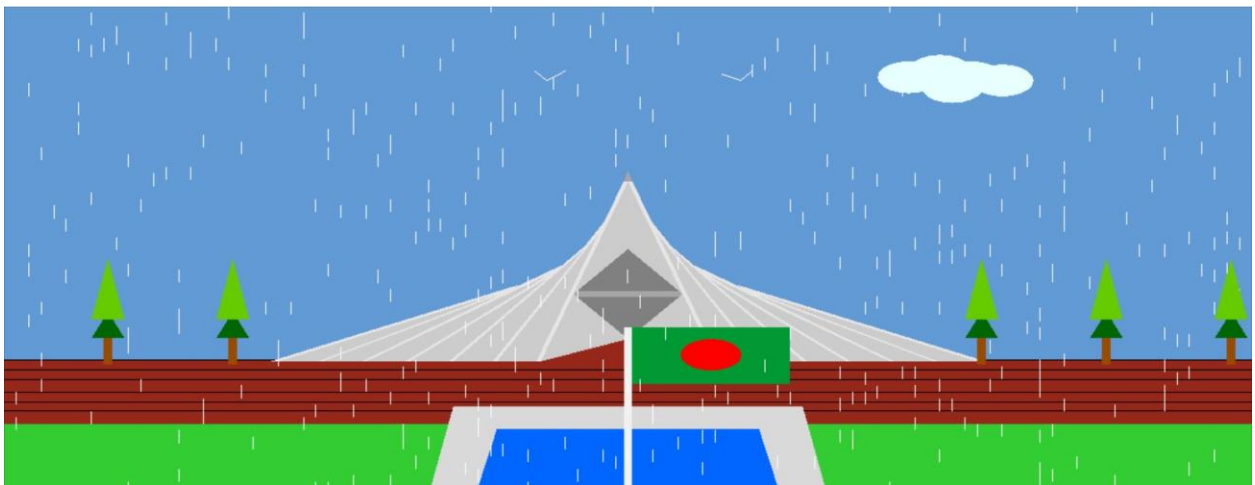
Moon:



**Flag:**



**Rain:**



### **List of objects:**

1. Clouds.
2. Sun.
3. Road.
4. Car.
5. Moon.
6. Pool.
7. Tree.
8. Field.
9. Birds.
10. Flag.
11. Rain.
12. Sky.
13. Stairs to Memorial.
14. Bus.
15. Stars.
16. Memorials.
17. Grass Flowers.
18. Lamps.
19. Border of pool.
20. Airplane.



## Functions to represent the objects

<b><u>Object Name</u></b>	<b><u>Function</u></b>
<b>Memorial</b>	memorial()
<b>Rain</b>	rain()
<b>Star</b>	star() manyStar() star1()
<b>Car</b>	car()
<b>Airplane</b>	plane()
<b>Circle</b>	circle()
<b>Line</b>	line()

<b><u>Object Name</u></b>	<b><u>Function</u></b>
<b>Clouds</b>	cloud() cloud1()
<b>Trees</b>	tree() tree2()
<b>Sun</b>	sun()
<b>Moon</b>	moon()
<b>Bus</b>	bus()

<b><u>Object Name</u></b>	<b><u>Function</u></b>
<b>Border of pool</b>	borderPool()
<b>Flag</b>	flag()
<b>Road</b>	road()
<b>Grass Flowers</b>	grassFlower() grassFlower2() grassFlower3() grassFlower4()
<b>Field</b>	field()

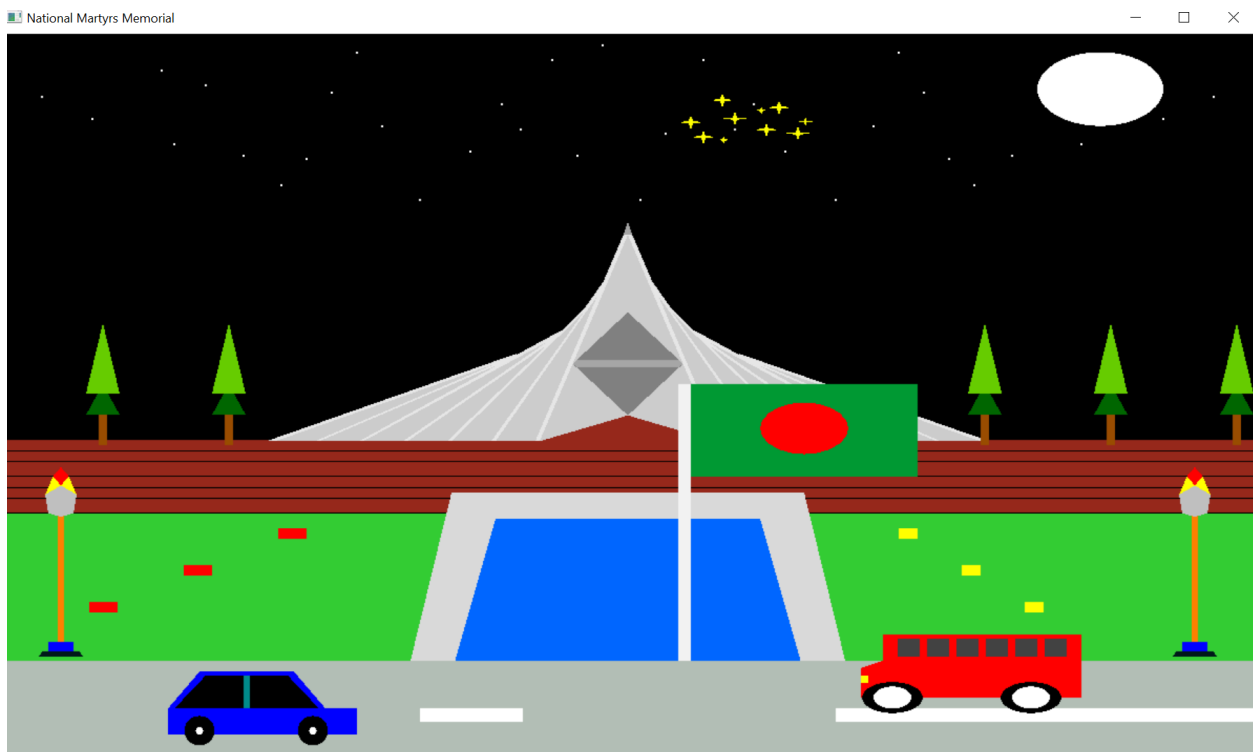
<b><u>Object Name</u></b>	<b><u>Function</u></b>
<b>Sky</b>	sky()
<b>Bird</b>	bird()
<b>Stairs of memorial</b>	stair()
<b>Lamps</b>	lamp() lamp2()
<b>Pool</b>	pool()

<div>Name</div> <div>ID</div>	Contribution in Project
<u>Member-1</u>  MUBASSHAR-UL-ISHRAQ TAMIM  20-43814-2	1.Memorial. 2.Car. 3.Star. 4.Rain. 5.Airplane. 6.Circle.
<u>Member-2</u>  MOHAMMAD SHAFIN  20-43736-2	1. Clouds. 2.Trees. 3.Sun. 4.Moon. 5.Bus. 6.Line
<u>Member-3</u>  ASHESH DEB PRIOM  20-43698-2	1.Broder of pool. 2.Flag. 3.Grass Flowers. 4.Field. 5.Road. 6.Day
<u>Member-4</u>  NOBONITA NONDE  20-43819-2	1.Sky. 2.Stairs of memorial. 3. Pool. 4.Birds. 5. Lamps. 6.Night

## Output: Day view



## Output: Night view



## Task Assignment:

### Contribution Table:

<b>Member-1</b>	<b>Member-2</b>	<b>Member-3</b>	<b>Member-4</b>	<b>TOTAL</b>
25%	25%	25%	25%	100%

### Conclusion:

To conclude, we have drawn a National Martyrs' Monument using glut in this computer graphics project. We've shown that using code blocks and different functionalities, we can construct the National Martyrs' Monument. To construct a plausible situation, the items should travel in various directions. In this project we have tried our best for creating a realistic scenario of National Martyrs' Monument with natural effects, protection and putting the due respect towards the monument which set up in the memory of those who died in the Bangladesh War of Independence of 1971.