MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION, MUMBAI

GOVERNMENT POLYTECHNIC KARAD

SECOND YEAR DIPLOMA COMPUTER ENGINEERING (I-SCHEME)

A

MICRO-PROJECT REPORT

SPACE OBJECT SHOOTING GAME

UNDER THE SUBJECT

COMPUTER GRAPHICS (22318)

SUBMITTED BY

1251-PRATIK PRAMOD SHEJWAL

1261-RIYA SUNIL KHARADE

1265-PURVA MURLIDHAR JADHAV

1272-ANUJA JAYANT JADHAV

UNDER THE GUIDANCE OF

Mrs K.K.GAIKWAD

(DEPARTMENT OF COMPUTER ENGINEERING)

2022-23

CERTIFICATE

This is certify that, as part of the partial fulfilment of the second year Diploma Course For the Semester III, the bonafied students studying in Second Year Diploma (COMPUTER), I Scheme Mr Pratik Promod Shejwal, Miss Riya Sunil Kharade, Miss Purva Murlidhar Jadhav, Miss Anuja Jayant Jadhav have completed the project report titled as **'Space Object Shooting Game'.**

For the subject-Computer Graphic under the guidanace of Mrs.K.K.Gaikwad and submitted it to Government Polytechnic Karad. The information presented in this project project report has not been submitted earlier.

Mrs. K.K. GAIKWAD **Prof. Mrs. PATIL S.B**

(GUIDE) **(HOD)**

Date: 07/12 /2022

Place: Govt. Polytechnic, Karad .

ACKNOWLEDGEMENT

We take it is an opportunity to thank all those who have directly and indirectly inspired , directed and assisted us towards successful completion of this project report.

We express our sincere thanks to the Principal, Dr. R .K .Patil & the Head of Department, Prof. Mrs.S.B.Patil for having us allowed to submit this report as part of our academics learning.

We express our sincere thanks to Mrs. K.K. GAIKWAD, Lecturer Computer Department , Government Polytechnic Karad . for encouragement throughout the project report and guideline in designing & working out this project.

We are also grateful to team of “COMPUTER GRAPHICS”for their highly encouraging and co-operative attitude. We express our sense of gratitude towards our friend and parents for their constant moral support during project report.

Place: Government Polytechnic, Karad.

Date:07 /12 /2022

Yours Sincerely,

Mr. Pratik Pramod Shejwal

Miss. Riya Sunil Kharade

Miss. Purva Murlidhar Jadhav

Miss. Anuja Jayant Jadhav

INDEX

Title Of Micro Project:- Space Object Shooting Game

➢ RATIONALE:

The space shooting game is made for fun. This game is made in C language with graphics. In this game user should shoot the objects from space before they reach at the bottom. When user complete the target within the given shoots level get increased. User's rocket speed and the object's speed increases when the level of game increases.

➢ AIM AND BENEFITS:

1. To acquire knowledge about Computer Graphics.
2. To use graphics functions to draw shapes, objects, etc by inbuilt functions in CGR.
3. To develop C program to perform read and write operation to the given file.
4. To use various graphics functions in Computer Graphics.

➢ COURSE OUTCOMES:

CO. a) Manipulate visual and geometric information of objects.

CO. b) Implement standard algorithm to draw various graphics objects using 'C'.

CO. c) Develop 'C' program for 2D transformation.

CO. d)Use projection to visualize objects on view plane.

➢ LITERATURE REVIEW:

1.We have google foe search engine to complete this micro-project,website –

a) https://www.scribd.com/document/549589023/Space-Object-Shooting-Game

b) https://youtu.be/zEWClhMQHJg

2.We refered " Procedural Elements For Computer Graphics" book By David F. Rogers.

3.While doing this project, we faced some difficulties but our teacher helps us to complete our micro-project.

➢ PROPOSED METHODOLOGY:

1.We selected the topic of our microproject.

2.We collected all the data required for our micro-project.

3.Then we created Proposal of microproject.

4.Then we created a program on Space Object Shooting Game.

5.Then after developing a program we executed a program on the turbo C++ to get output.

6. After getting desired output we write report of our project.

7.Checking the soft copies under the guidance of the subject teacher.

8.After confirmation from the Teacher , get a hard copy of the microproject and submit it.

➢ ACTION PLAN:

Sr.no	Details of activity	Planned start date	Planned finish date	Name of responsible team member
1.	Discussion And Finalization Of Topic	02/09/2022	11/09/2022	All members
2.	Completion of Proposal	12/09/2022	18/09/2022	All members
3.	Preparation By Abstract	19/09/2022	26/09/2022	All members
4.	Collection Of Data/Experiment	27/09/2022	06/10/2022	All members
5.	Discussion And Outline	07/10/2022	25/10/2022	All members
6.	Editing And Proof Reading Of Content	27/10/2022	12/11/2022	All members
7.	Completion Of Report And Presentation	01/12/2022	05/12/2022	All members
8.	Final Submission of Micro-Project	07/12/2022	07/12/2022	All members

➢ RESOURCES REQUIRED:

Sr. no	Name of Resources	Specification	Quantity	Remark
1.	Computer system	Laptop (HP) 8 GB RAM	1	
2.	Software	Turbo C++	-	
3.	Ms Word	Microsoft Word 2021 MSO 64 bit	-	
4.	Internet	4G,Wi-Fi	-	
5	Book	Procedural Elements For Computer Graphics By David F. Rogers	1	

➢ INTRODUCTION:

❖ Headers Files:

We included header files in our program by using the first syntax.

- Header files used in program:

a)include<stdio.h> :

This header file stands for ‘standard input output'. It is used to perform Input and output operations using functions 'scanf()' and 'printf()'.

b) #include<conio.h> :

This header file stands for ‘console input output'.This header file declares several useful library functions for performing Console input output from the program.

c) #include<graphics.h> :

Using functions of graphics. H in turbo C compiler you can make graphics programs,animations, projects and games. You can draw circles , rectangles, lines, bars and many other geometrical figures. You can change their colors using the available functions and fill them.

d) #include<dos.h> :

Dos.h is a header file of C Language. This library has functions that are used for handling interrupts, producing sound, date and time functions, etc.
It is Borland specific and works in compilers like Turbo C Compiler.
Below are the functions supported by this library:

-Delay():

The delay() function in C is used to stop the execution of the program for some period of time.

Syntax:

Delay(unsigned int)

Parameters:

It accepts a time in milliseconds to stop the execution of the program to that period of time.

❖ Information about gd and gm :

In computer graphics gd and gm stands for graphics driver and graphics mode.

1)Graphics Driver:

A graphics Driver is a software that allow your operating system and programs to use your computers graphics hardware.Initgraph initializes the graphics system by loading graphics driver from disc (or validating a registered driver).

2)Graphics mode :

In graphics mode the screen is divided into small dots called Pixel.A single graphics device can operate in a number of different graphics modes with different resolutions and color selections. We call the initgraph() function that will initialize the graphics mode on the computer.

❖ <u>Graphics Objects used in program :</u>

1) Line() :

Line() functions used to draw a line from a point(x1,y1) to point(x2,y2) i.e. (x1,y1) and (x2,y2) are end points of the line.

-Syntax : line(int x1, int y1, int x2, int y2);

-For example : Line(100,150,600,150);

If we give above values of x1,y1,x2,y2 then it's output is as follows:

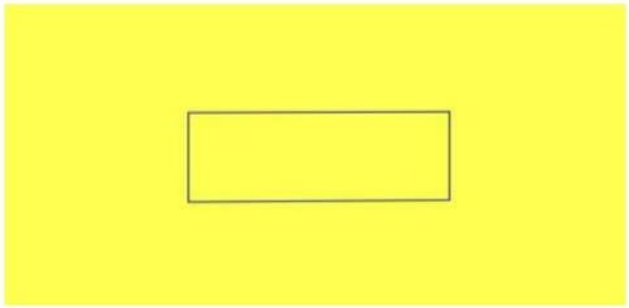
2) Rectangle() :

Rectangle() is used to draw a rectangle. Coordinates of left top and right bottom corner are required to draw the rectangle. Left specifies the X-coordinate of top left corner, top specifies the Y-coordinate of top left corner, right specifies the X-coordinate of right bottom corner, bottom specifies the Y-coordinate of right bottom corner.

-Syntax : rectangle(int left, int top, int right, int bottom);

-For example : rectangle(150,230,320,170);

If we give above values of left, top, right, bottom then its Output is as follows:



3) Circle() :

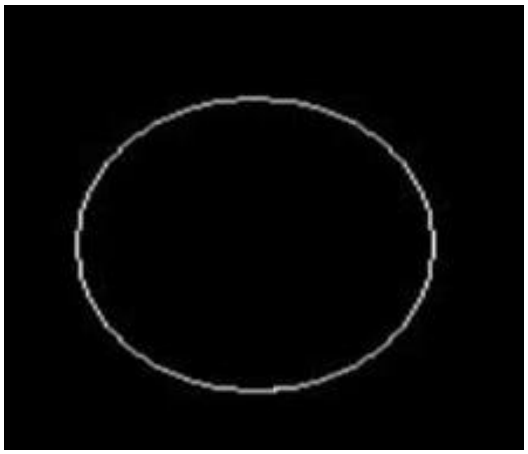
Circle() function in graphics , which draws a circle with center at (x, y) and given radius.

-Syntax : Circle(x, y, radius);

Where , (x, y) is center of the circle. 'radius' is the Radius of the circle.

-For example:circle (250, 200 , 50);

If we give about values of x, y, and radius then its output is as follows :



- **Declaration: void cleardevice();**

  cleardevice function clears the screen in graphics mode and sets the current position to (0,0).Clearing the screen consists of filling the screen with current background color.

- **closegraph function :**

  closes the graphics mode, deallocates all memory allocated by graphics system and restores the screen to the mode it was in before you called initgraph.

  Declaration: void closegraph();

- **setcolor:**

  In Turbo Graphics each color is assigned a number. Total 16 colors are available. Strictly speaking number of available colors depends on current graphics mode and driver.
  For Example :- BLACK is assigned 0, RED is assigned 4 etc. setcolor function is used to change the current drawing color.e.g. setcolor(RED) or setcolor(4) changes the current drawing color to RED. Remember that default drawing color is WHITE.

  Declaration: void setcolor(int color);

- **setbkcolor**:

  this function changes current background color e.g. setbkcolor(YELLLOW) changes the current background color to YELLOW.Remember that default drawing color is WHITE and background color is BLACK.

  Declaration: void setbkcolor(int color);

- **Floodfill:**

  floodfill function is used to fill an enclosed area. Current fill pattern and fill color is used to fill the area.(x, y) is any point on the screen if (x,y) lies inside the area then inside will be filled otherwise outside will be filled,border specifies the color of boundary of area. To change fill pattern and fill color use setfillstyle. Code given below draws a circle and then fills it.

  Declaration: void floodfill(int x, int y, int border);

- **Closegraph():**

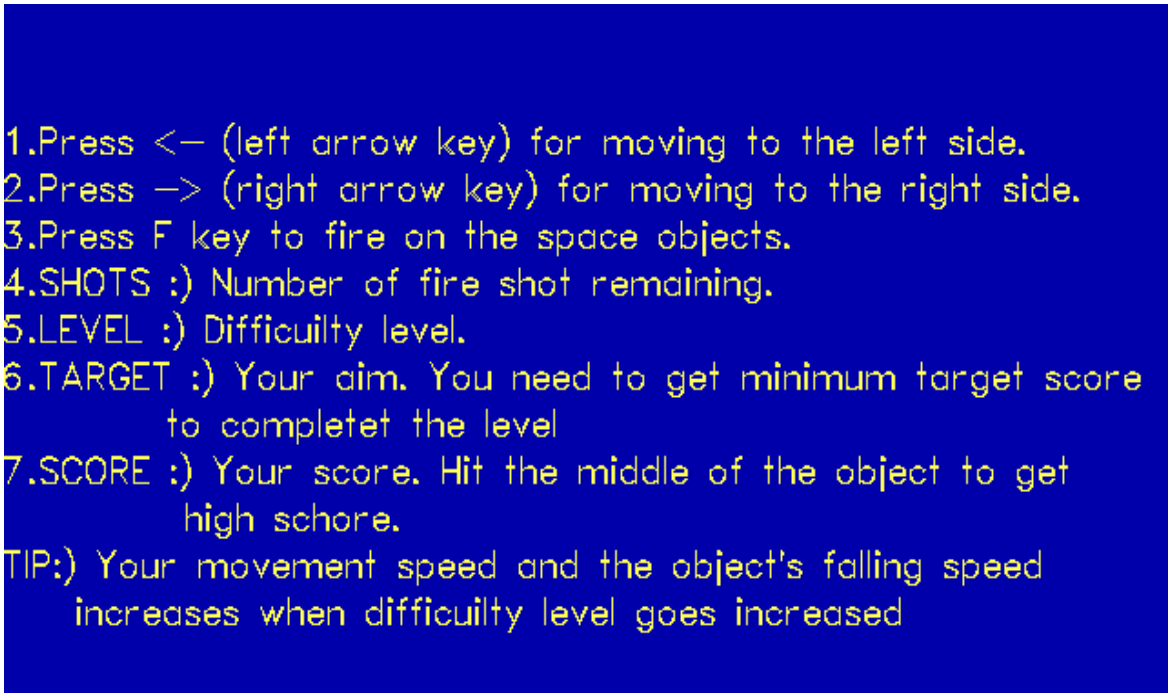
  closegraph function closes the graphics mode, deallocates all memory allocated by graphics system and restores the screen to the mode it was in before you called initgraph.

  Declaration: void closegraph();

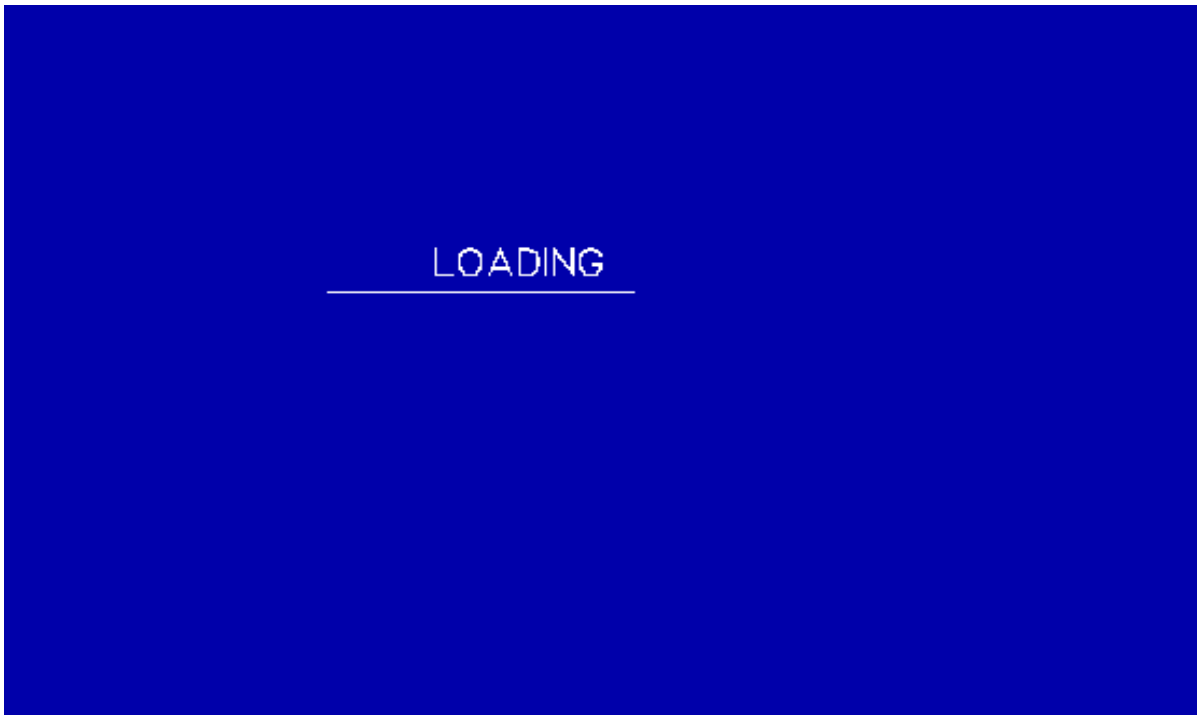
- **OUTPUT OF MICRO-PROJECT:**

1) After running the code:

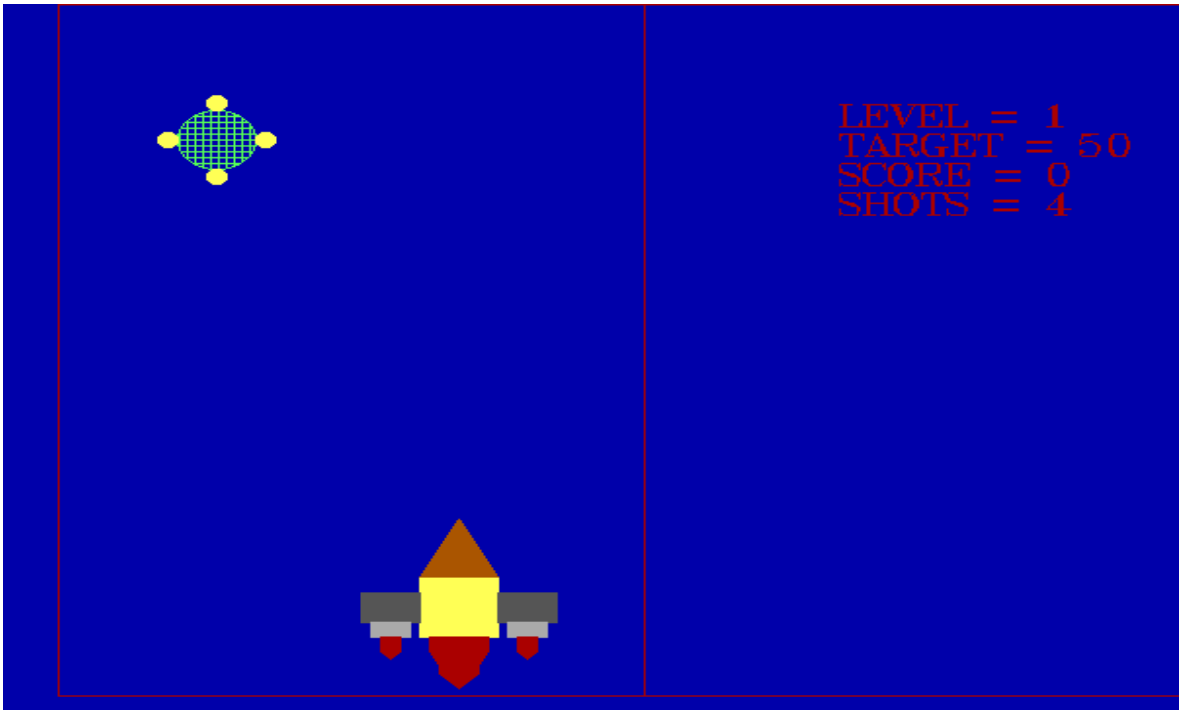
2)After pressing the 'h' (Help) key on keyboard :



3)After pressing the ‘s’ (Start) key on keyboard :



4)After loading (Game Start):



➢ SKILL DEVELOPED:

1) We learned that how to develop logic for a program.

2)We understand that how we can make various objects like this project, moving rocket or anything using 'C' in Computer Graphics.

➢ CONCLUSION:

In this Micro project we conclude that

1) We use various types of operations like fillcolor () , fillpoly () ,etc to make program output perfectly.
2) We can use like above operations where specific operations has to be performed on large data within a single call.

➢ GROUP DETAILS:

Sr.no	Roll No	Enrollment No	Name of member
1.	1251	2100100053	Pratik Pramod Shejwal
2.	1261	2100100063	Riya Sunil Kharade
3.	1265	2100100067	Purva Murlidhar Jadhav
4.	1272	2200100658	Anuja Jayant Jadhav