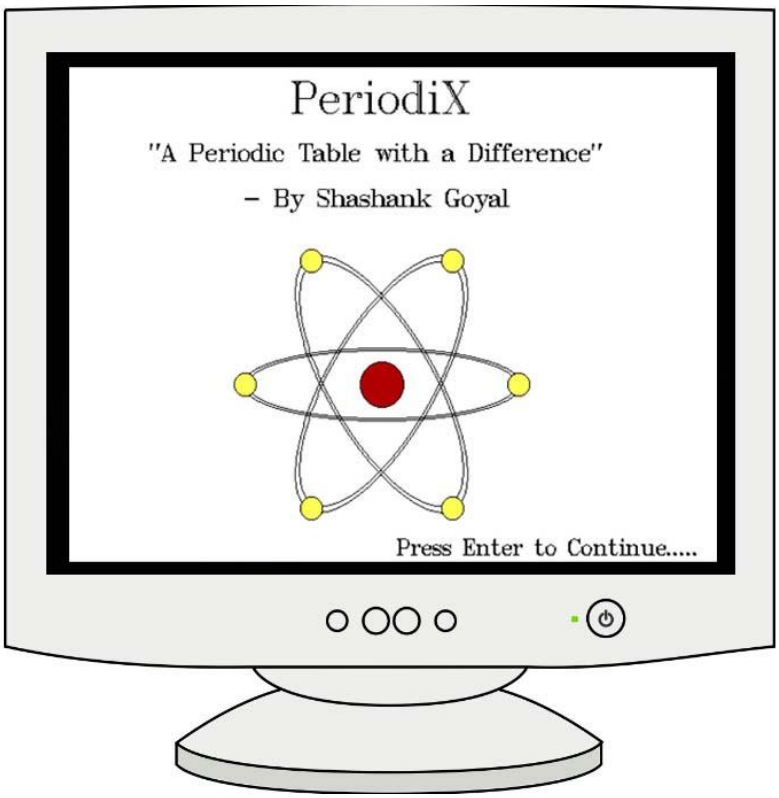
PeriodiX



NAME: SHASHANK GOYAL

CLASS: XII – E

BOARD ROLLNUMBER:

Certificate

This is to Certify that Shashank Goyal
Of Class XII – E
Roll No:
Has Worked on his Project
Titled “PeriodiX”
Under my Supervision and
has Completed it to my full Satisfaction.

Mrs. R. Nagpal	Mr. M. Fernandes

Acknowledgement

It is my Duty to Record
My Sincere Thanks and Deep Sense
Of Gratitude to my
Computer Science Teachers
Mrs. R Nagpal and Mr. M. Fernandes
For their Valuable Time, Interest
And Constant Encouragement
For the Fulfillment of my Project.

Header Files Used

HEADER FILES	FUNCTIONS USED
Fstream.h	Cout ,Cin, Open( ), Close( ), Read( ), Write( ), Seekg( )
Conio.h	Kbhit( ), Getch( ), Clrscr( )
String.h	Strcpy( ), Strcmpi( ), Strlen( ), Strcat( )
Stdlib.h	Ltoa( ), Itoa( ), Exit( ), Randomize( ), Random( ),
Stdio.h	Remove( ), Rename( )
Dos.h	Delay( ), Sleep( )
Math.h	Sqrt( )

HEADER FILE	FUNCTIONS USED
Ctype.h	Isalpha( ), Isspace( ), Isdigit( ),Ispunct( )
Iomanip.h	Setw( )
Graphics.h	Initgraph( ), Cleardevice( ), Gettextsettings( ), Settextstyle( ), Outtextxy( ), Textwidth( ), Textheight( ), Setcolor( ), Setfillstyle( ), Getbkcolor( ), Line( ), Fillpoly( ), Drawpoly( ), Rectangle( ), Bar( ), Circle( ), Ellipse( ), Fillellipse( ),Getpixel( ), Putpixel( ) ,Closegraph( ),

Classes/Structures Used

```
struct quest
{
 char qstn[200];
 char opt[4][200];
 char ans[200];
};

struct coord
{
 float x,y;
 int col;
};

struct data
{
 char name[20];
 char grp[3],pd[3];
 char atm[15],atn[10];
 char sym[5];
 char config[30];
 char blk[20];
 char type[20];
};
```

```
class element
{
 data d;
 quest q[5];
 coord c;
 public:
 void putblktypepd();
 void putd(data);
 void putcoord(co ord);
 void putq(quest [ ]);
 void getdata(data&,quest[],coord&);
 int matchxy(float,float) ;
 element();
};
```

```
class login
{
 char name[20];
 char pass[20];
 char access[20];
 long hscore,cscore,tpoints;
 public:
 void accept(char [],char []);
 void getinfo(char [],char [],long []);
 void s_upd(long);
 void madmin();
 int mname(char []);
 int mpass(char []);
 int mac();
 login();
};
```

Member Functions of Classes

1. Class Element –

FUNCTION NAME	FUNCTIONALITY
void putblktypepd();	Used to Calculate the Block, period and Type of Element Depending Upon its Position in the Periodic Table.
void putd(data);	Used to put Structure Data details in an Object of Class Element.
void putcoord(coord);	Used to put Structure Coord details in an Object of Class Element.
void putq(quest []);	Used to put Structure Question details in an Object of Class Element.

FUNCTION NAME	FUNCTIONALITY
void getdata(data&,quest[],coord&);	Used to Get the details of an Element in the form of Data, Questions and Coordinates.
int matchxy(float,float);	Used to match the (x,y) Coordinates of an Element in the Periodic Table.
element();	Constructor to Initialize all data Members with NULL Values.

2. Class Login –

FUNCTION NAME	FUNCTIONALITY
void accept(char [],char []);	Accept Login ID Details.
void getinfo(char [],char [],long []);	Used to Return the Login ID Details of a User.
void s_upd(long);	Used to Update the Score of a User.
void madmin();	Used to Give a User Administrative Access.
int mname(char []);	Used to Match a Name with that of the User.
int mpass(char []);	Used to Match a Password with that of the User.
int mac();	Checks whether a user has Administrative Rights

FUNCTION NAME	FUNCTIONALITY
login();	Constructor to Initialize all data Members with NULL Values.

Global Functions

FUNCTION NAME	FUNTIONALITY
void sup(float x, float y, char str[]);	Displays a String as a Superscript at (x,y).
void config(float x, float y, char str[]);	Displays the Configuration of an Element.
void ginput(float x, float y, char str[],char type);	Used to Take the User Input in Graphics Mode Depending Upon the Call as Password or Regular Text.
void playm();	Creates the Menu for Play Option.
void changepass();	Creates the Menu for changing the User Password.
void statpage();	Displays the User Statistics.

FUNCTION NAME	FUNTIONALITY
void clrstats();	Clears the User Statistics.
void delcu();	Deletes the Current User Account.
void setpage();	Creates the Menu for the User Settings Page.
void mpage();	Creates the Main Game Menu.
void viewelement();	Displays the Details of an Element.
void gdspage();	Creates the Menu for Game Data Settings.
void lou();	Displays the List of User Accounts.
void mod();	Used to give Administrative Rights to a Non – Admin.
void deluser();	Used to Delete a User from the List of Users.

FUNCTION NAME	FUNTIONALITY
void udspage();	Creates the Menu for User Data Settings.
void apage();	Creates a Menu for an Administrator to Change the Game Settings.
void lpage();	Creates the Login Page.
void spage();	Creates the Sign Up Page
void wpage();	Creates the Welcome Page.
void e_screenf (float x, float y);	Displays the Information about an element at the location (x,y) in the Periodic Table
void coordwrite(float x,float y,int col);	Used to Write the Coordinates of an Element into the File.

FUNCTION NAME	FUNTIONALITY
void screen(int para);	Used to Display the Periodic Table.
void cnt(float x, float y);	Used to Display the Controls for the Periodic Table.
void nav(float &x, float &y, int &col, int para);	Used to Navigate through the Periodic Table.
void rect(int x1,int y1,int x2,int y2,int x3,int y3,int x4,int y4);	Used to make a Quadrilateral.
void mainf(int para);	Used for the Periodic table Option in the Main Menu.
void display(element e);	Used to Display the Element During the Game.
void randomarr(int rec[],int n);	Used to Give Random values to an Array starting from Zero.
void blk(char temp[][30]);	Used to Generate random Blocks as Options for the Questions.

FUNCTION NAME	FUNTIONALITY
void defwrite();	Used to Set Default values to The Element Data in case of any Errors.
void questrandom(quest qq[5]);	Randomizes Question and Options Order Every time the Game is Played.
void scorepage(int score[5],int lvl);	Displays the Score and the Result of a Level.
void userupdate(long);	Updates the Score of the Player after every Level.
int epage();	Exit Page.
int play(int ur,int lvl);	Used to Play the Game.
int toggle(char head[],char menu[][50],int r);	Used to Create Menu(s) And Select the Options.

FUNCTION NAME	FUNTIONALITY
char* opttoogle(quest qq[],int i);	Toggle through the Question Options.
void slantellipse(float m,int s1,int s2);	Used to make Slanted Ellipse.

SOURCE CODE

OUTPUT SCREENS

Bibliography -

- http://www.science.co.il/elements/: For the Data about each Element.
- Grapher Software: For the Equation of the Slanted Ellipse.
- Class 11 Chemistry NCERT: For the Periodic Table.