**// Project ......**

**// Periodic Table Data Display ..**

**/\* Structure of class ;;**

**Data Members :**

**int atno -- For Atomic Number**

**char name -- Element name**

**char symbol -- For Symbol**

**float atmas -- For Atomic Mass**

**float atrad -- For Atomic Radii**

**char block -- For Block Identification**

**Member Functions :**

**display();**

**displaytable();**

**page();**

**\*/**

**/\* Program used to tally the atomic number ( Location ) with the binary file "propinfo.dat"**

**and display the properties from the same .... \*/**

**#include<iostream.h>**

**#include<conio.h>**

**#include<stdio.h>**

**#include<fstream.h>**

**#include<stdlib.h>**

**#include<ctype.h>**

class periodic\_table

{

int atno;

float atmas;

float atrad;

char name[20];

char symbol[6];

char block;

public:

void display()

{ clrscr();

cout<<"\n\n\n\t\t\t\t PROPERTIES :-";

cout<<"\n\n\t\t Atomic Number : "<<atno;

cout<<endl;

cout<<"\t\t Name of the ELEMENT : "<<name;

cout<<endl;

cout<<"\t\t Element SYMBOL : "<<symbol;

cout<<endl;

cout<<"\t\t Atomic MASS : "<<atmas<<" u";

cout<<endl;

cout<<"\t\t Atomic RADIUS of the element : "<<atrad;

cout<<endl;

cout<<"\t\t BLOCK It Belongs to : "<<block<<endl;

cout<<"\n\n\t\t"<<" Atomic Radius in Pico meters (pm)";

cout<<"\n\t\t"<<" 00 means - NOT KNOWN ";

}

void displaytable()

{

cout<<"\n\t\t\t MODERN PERIODIC TABLE !! ";

cout<<"\n\n +---+ +---+\n";

cout<<" 1 |H | |He |\n";

cout<<" +===+---+ +---+---+---+---+---+---+\n";

cout<<" 2 |Li |Be | |B |C |N |O |F |Ne |\n";

cout<<" +---+---+ +---+---+---+---+---+---+\n";

cout<<" 3 |Na |Mg | |Al |Si |P |S |Cl |Ar |\n";

cout<<" +---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+\n";

cout<<" 4 |K |Ca |Sc |Ti |V |Cr |Mn |Fe |Co |Ni |Cu |Zn |Ga |Ge |As |Se |Br |Kr |\n";

cout<<" +---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+\n";

cout<<" 5 |Rb |Sr |Y |Zr |Nb |Mo |Tc |Ru |Rh |Pd |Ag |Cd |In |Sn |Sb |Te |I |Xe |\n";

cout<<" +---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+\n";

cout<<" 6 |Cs |Ba | \* |Hf |Ta |W |Re |Os |Ir |Pt |Au |Hg |Tl |Pb |Bi |Po |At |Rn |\n";

cout<<" +---+---+ +---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+\n";

cout<<" 7 |Fr |Ra | \*\*|Rf |Db |Sg |Bh |Hs |Mt |Ds |Rg |Cn |Uut|Fl |Uup|Lv |Uus|Uuo|\n";

cout<<" +---+---+ +---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+\n\n";

cout<<" +---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+\n";

cout<<" \*|La |Ce |Pr |Nd |Pm |Sm |Eu |Gd |Tb |Dy |Ho |Er |Tm |Yb |Lu |\n";

cout<<" +---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+\n";

cout<<" \*\*|Ac |Th |Pa |U |Np |Pu |Am |Cm |Bk |Cf |Es |Fm |Md |No |Lr |\n";

cout<<" +---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+\n";

getch();

}

void page()

{ int t;

clrscr();

cout<<" \n\n\t\t WELCOME ... Lets Explore Periodic Table ! :)";

cout<<" \n\n\t From Class XII Science (2014-15) - KV Farakka";

cout<<" \n\n\n\t\t\t\t Made By - Dibyo Majumder";

cout<<" \n\t\t\t\t - Mostafijur Rahaman";

cout<<" \n\t\t\t\t - Abhinash jena ";

cout<<" \n\t\t Under the guidance of Suman Chakraborty Sir \n";

cout<<" \n\n\n Enter the code to continue [[ 2145 ]] : ";

}

int menu()

{ int cs=0;

while(cs<1||cs>3)

{ clrscr();

cout<<"\n\n\n\t\t\t 1. DISPLAY PERIODIC TABLE ";

cout<<"\n\t\t\t 2. EXPLORE ELEMENTS ";

cout<<"\n\t\t\t 3. EXIT";

cout<<"\n\t\t Enter a choice (1-3) : ";

cin>>cs;

}

return(cs);

}

void explore()

{

}

};

void main()

{ periodic\_table P ;

P.page();

int t;

cin>>t;

if(t==2145)

{

int cs=0;

while(cs!=3)

{ cs=P.menu();

if(cs==1)

{

clrscr();

P.displaytable();

}

else if(cs==2)

{

int ch=1;

while(ch==1)

{

int r;

cout<<"ENTER THE ELEMENTS' ATOMIC NUMBER TO EXPLORE -----> ";

cin>>r;

if(r>=1&&r<=118)

{

clrscr();

ifstream in;

in.open("propinfo.dat",ios::in||ios::binary);

in.seekg((r-1)\*sizeof(P),ios::beg);

in.read((char\*)&P,sizeof(P));

P.display();

in.close();

cout<<"\n\nEnter '1' to Explore another Element and '0' to exit ";

cin>>ch;

}

else

{

cout<<endl;

cout<<"SORRY !! .. No element found with Atomic Number "<<r;

cout<<"\n\nEnter '1' to Explore another Element ";

cin>>ch;

}

} //end while

} //end if cs2

else if(cs==3)

{ clrscr();

cout<<"\n\n\n\t\t\t Thank You !!";

}

} //end while

}

else

{ clrscr();

cout<<" Wrong Code Entered \_\_ Access Denied !!";

}

getch();

}