

Mini Project

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Periodic Table of Design

[illegible]

A decorative network diagram in the top-left corner, featuring a complex web of interconnected nodes and lines. Some nodes are highlighted with blue circles, and others with blue dots. The lines are thin and grey, creating a mesh-like structure.

CONTENTS

- Objective
 - Working principle
 - Header files and functions
 - Key features
- 
- A decorative network diagram in the bottom-right corner, similar to the one in the top-left. It shows a network of nodes and lines, with some nodes highlighted by blue circles and others by blue dots.



OBJECTIVE

- The Digital Modern Periodic Table project is a simple Educational console application built without the use of graphics.
- It is developed using the C++ programming language for the purpose of storing name, symbol, atomic number, atomic weight, and some important properties as well as to display them as per requirement of the user.
- The source code for this project is complete and totally error free, and we welcome any feedback and suggestions.



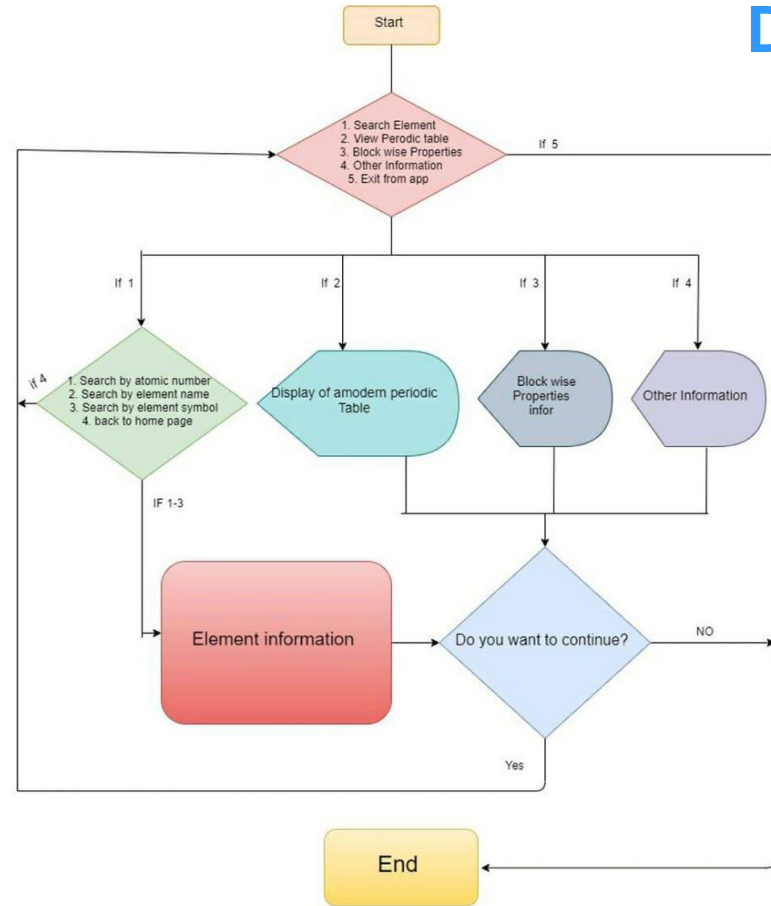
WORKING DESCRIPTION

- This program is based on the 'Modern Periodic Table of Elements. It showcases all the elements and their basic properties including name, symbol, atomic number. atomic mass group and period.

This program contains 4 options:

1. Search for an element
2. View Modern periodic table
3. Block wise properties info
4. Exit from application.

DESIGN





HEADER FILES & FUNCTIONS

Header Files:

1. iostream
2. conio.h
3. string.h
4. stdio.h
5. windows.h
6. process.h

Inbuilt Functions:

- | | |
|--------------|-----------|
| 1. goto() | 7. Main() |
| 2. strcmpi() | |
| 3. strcpy() | |
| 4. clrscr() | |
| 5. getch() | |
| 6. gets() | |



KEY FEATURES

- **Exploration of element Information:** The main function of this project is to explore or to display the stored information. You can search an element by using any of the following method:
 - By name of element
 - By symbol of element
 - By atomic number of element
- **Block wise properties information:** User will find it easier to get basic information of all the four blocks of Modern Periodic Table.
- Origin of every element

```
C:\Users\Babbar\Desktop\prog\bat\Debug\mp.exe

THE MODERN PERIODIC TABLE
-----
H
Li Be      B  C  N  O  F  Ne
Na Mg      Al Si P  S  Cl Ar
K  Ca Sc Ti V  Cr Mn Fe Co Ni Cu Zn Ga Ge As Se Br Kr
Rb Sr Y  Zr Nb Mo Tc Ru Rh Pd Ag Cd In Sn Sb Te I  Xe
Cs Ba La Hf Ta W  Os Ir Pt Au Hg Tl Pb Bi Po At Rn
Fr Ra Ac Rf Db Sg Bh Hs Mt Ds Uuu Uub -  Uuq -  Uuh

      Ca Pr Nd Pm Sm Eu Gd Tb Dy Ho Er Tm Yb Lu
      Th Pa U  Np Pu Am Cm Bk Cf Es Fm Md No Lr

Press any key to continue . . .
```

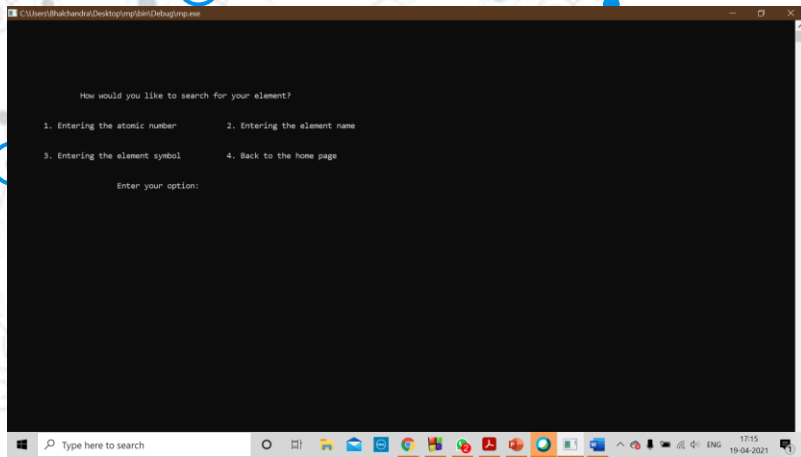
Modern Periodic Table display window

Option window →

```
C:\Users\Babbar\Desktop\prog\bat\Debug\mp.exe

Select Option
-----
1. Search for an element      2. View the Modern Periodic Table
3. Block wise properties info 4. Exit from application

Enter your option: 
```

```
C:\Users\Bhakhandal\Desktop\mp\bin\Debug\mp.exe

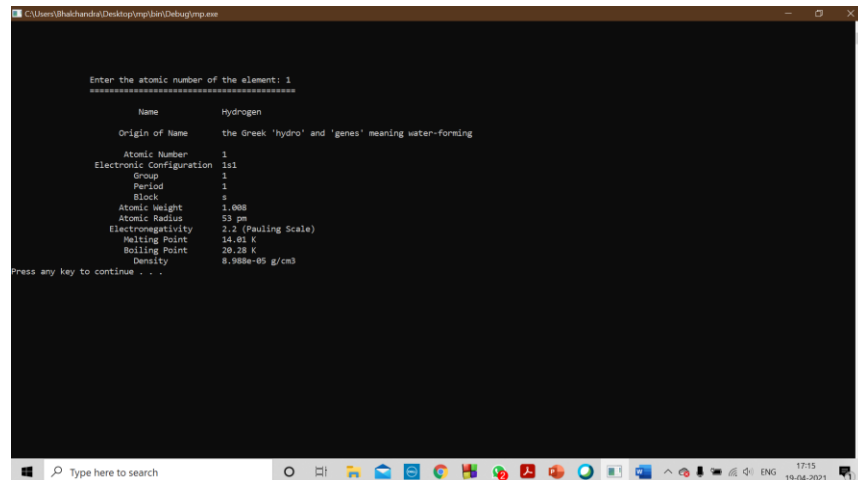
How would you like to search for your element?

1. Entering the atomic number      2. Entering the element name
3. Entering the element symbol     4. Back to the home page

Enter your option:
```

← Option 1 window

Element information window →



```
C:\Users\Bhakhandal\Desktop\mp\bin\Debug\mp.exe

Enter the atomic number of the element: 1
*****
Name          Hydrogen
Origin of Name the Greek 'hydro' and 'genes' meaning water-forming
Atomic Number 1
Electronic Configuration 1s1
Group 1
Period 1
Block s
Atomic Weight 1.008
Atomic Radius 53 pm
Electronegativity 2.2 (Pauling Scale)
Melting Point 14.01 K
Boiling Point 20.28 K
Density 8.988e-05 g/cm3
Press any key to continue . . .
```

Block information windows

```
C:\Users\Bakhasha\Desktop>ipdb\Debugging.exe

Block wise properties
=====

S - Block :
=====
* They are soft metal with low melting and boiling point.
* They have low ionisation enthalpies and are highly electropositive
* They lose the valence electrons readily to form +1 and +2 ion.
* They are very reactive metal. The metallic character and reactivity increases as we move down the group. Besides of high reactivity, they never found pure nature.
* The compounds of s-block elements with the exception of beryllium are predominantly ionic.
* Most of the metal of this block impart characteristic colour to flame.
* They are strong reducing agents.
* All are good conductors of heat and electricity.

Press any key to continue . . .
```

```
C:\Users\Bakhasha\Desktop>ipdb\Debugging.exe

Block wise properties
=====

P - Block :
=====
* P block elements include both metals and non-metals but the number of non metals is much higher than that of metals. Metallic character increases from top to bottom within a group and non metallic character increases from left to right along a period.
* Their ionisation enthalpies are relatively higher as compared to those of s block elements.
* They mostly form covalent compounds.
* Some of them show more than 1 Oxidation state in their compounds.
* Their oxidising character increases from left to right in a period and reducing character increases from top to bottom in a group.

Press any key to continue . . .
```

```
C:\Users\Bakhasha\Desktop>ipdb\Debugging.exe

Block wise properties
=====

D - Block :
=====
* They are hard ,malleable and ductile metals with high melting and boiling point.
* They are good conductors of heat and electricity.
* Their ionisation enthalpy are between s and p block elements.
* They show variable oxidation states.
* They form both ionic and covalent compounds.
* Their compounds are generally coloured and paramagnetic.
* Most of the transition metals such V, Cr, Mn, Fe, Co, Ni, Cu etc and their compounds are used as catalyst.
* Most of the transition metals form alloys.

Press any key to continue . . .
```

```
C:\Users\Bakhasha\Desktop>ipdb\Debugging.exe

Block wise properties
=====

F - Block :
=====
* They are heavy metals
* They have high melting and boiling point
* They show variable Oxidation State
* Their compounds are generally coloured
* They have high tendency to form complexes
* Most of the elements of the actinide series are radioactive.

Press any key to continue . . .
```

A decorative network diagram in the top-left corner of the slide. It consists of a series of interconnected nodes and lines. Some nodes are represented by solid blue circles, while others are open circles with blue outlines. The lines are thin and grey, creating a web-like structure that extends from the top-left towards the center of the slide.

CONCLUSION

Modern Periodic Table is very useful application for the students where they can access to all the information of a particular element in just one click.

Keep Learning... 😊

A decorative network diagram in the bottom-right corner of the slide. It is a continuation of the style seen in the top-left, with interconnected nodes and lines. It features a mix of solid blue circles and open circles with blue outlines, connected by thin grey lines, forming a complex web-like pattern that extends from the bottom-right towards the center.

A decorative background pattern consisting of a network of interconnected nodes and lines. The nodes are represented by small circles, some of which are solid blue, some are hollow blue, and others are solid grey. The lines are thin and grey, forming a complex web-like structure that is denser in the corners and sparser in the center.

Thank you