

### BATCH-7

#### ALGORITHM FOR ATOMIC NUMBER

1. Start
2. print "Enter the atomic number you want to search for:"
3. Read a Number **n**
4. Post decrement of "n" (n--)
5. if (n>=0&& n<112)
  - 5.1. return n
6. else
  - 6.1. return (-1)
7. stop

#### ALGORITHM FOR ATOMIC NAME

1. Start
2. Print "Enter the Atomic Name You want to search for:"
3. Read an array **x** of size 20 (x[20])
4. Declare **i** , **flag** and initialize flag with 0
5. for(i=0;i<112;i++)
  - 5.1. if(strcmp(x,symbol[i])==0)
    - 5.1.1. flag=1
    - 5.1.2. break the statement (break)
6. if (flag==1)
  - 6.1. return i
7. else
  - 7.1. return -1
8. Stop

### ALGORITHM FOR ATOMIC SYMBOL

1. Start
2. print "Enter the Atomic Symbol You want to search For:"
3. Read an array **x** of size 10 (**x**[10])
4. Declare **i** , **flag** and Initialize flag with 0
5. for (i=0;i<112;i++)
  - 5.1. if (strcmp(x,symbol[i])==0)
    - 5.1.1. flag=1
    - 5.1.2. break the statement (break)
6. if (flag==1)
  - 6.1. return i
7. else
  - 7.1. return (-1)
8. Stop

### ALGORITHM FOR ATOMIC WEIGHT

1. Start
2. print "Enter the Atomic Weight You Want to search for:"
3. Read an number **x** of datatype: **double**
4. declare **i,flag** and initialize flag with o
5. for (i=0;i<112;i++)
  - 5.1. if (weight[i]==x)
    - 5.1.1. flag=1
    - 5.1.2. break the statement (break)
6. if (flag==1)
  - 6.1. return i
7. else
  - 7.1. return (-1)
8. stop

## ALGORITHM FOR BLOCK

```
1. Start
2. Declare i,ch and  $n \leftarrow i+1$ 
3.
if( $n==1 \mid n==3 \mid n==4 \mid n==11 \mid n==12 \mid n==19 \mid n==20 \mid n==37 \mid n==38 \mid$ 
 $n==55 \mid n==56 \mid n==87 \mid n==88$ )
    3.1.  $ch \leftarrow s$ 
4. else if( $n==2 \mid (n>=5 \ \&\& \ n<=10) \mid (n>=13 \ \&\& \ n<=18) \mid (n>=31 \ \&\& \ n<=36)$ 
 $\mid (n>=49 \ \&\& \ n<=54) \mid (n>=81 \ \&\& \ n<=86)$ )
    4.1.  $ch \leftarrow p$ 
5.     else if( $(n>=21 \ \&\& \ n<=30) \mid (n>=39 \ \&\& \ n<=48) \mid (n>=72 \ \&\& \ n<=80) \mid$ 
 $(n>=104 \ \&\& \ n<=112)$ )
        5.1.  $ch \leftarrow d$ 
6. else
    6.1.  $ch \leftarrow f$ 
7. return ch
8. Stop
```

## ALGORITHM FOR PROPERTY

```
1. Start
2. Declare n,ch and  $n \leftarrow i+1$ 
3. if ( $n==1 \mid n==2 \mid (n>=6 \ \&\& \ n<=10) \mid (n>=15 \ \&\& \ n<=18) \mid (n>=34 \ \&\& \$ 
 $n<=36) \mid n==53 \mid n==54 \mid n==86$ )
    3.1.  $ch \leftarrow n$ 
4. else if ( $n==5 \mid n==14 \mid n==32 \mid n==33 \mid n==51 \mid n==52 \mid n==85$ )
    4.1.  $ch \leftarrow s$ 
5. else
    5.1.  $ch \leftarrow m$ 
6. return ch
7. Stop
```

## ALGORITHM FOR MAIN METHOD

1. Start
2. print "DIGITAL MODERN PERIODIC TABLE"
3. Declare  $i \leftarrow 999$  and option
4. do
  - 4.1. option  $\leftarrow$  get\_option()
  - 4.2. Declare ch1, ch2
  - 4.3. switch (option)
    - 4.3.1. case 1:  $i \leftarrow$  atomic\_number()
    - 4.3.2. break the statement (break)
    - 4.3.3. case 2:  $i \leftarrow$  atomic\_number()
    - 4.3.4. break the statement (break)
    - 4.3.5. case 3:  $i \leftarrow$  atomic\_number()
    - 4.3.6. print "I"
    - 4.3.7. break the statement (break)
    - 4.3.8. case 4:  $i \leftarrow$  atomic\_number()
    - 4.3.9. break the statement (break)
    - 4.3.10. case 5: return 0
    - 4.3.11. Default:
      - 4.3.12. print "wrong choice"
      - 4.3.13. print "let's try again , shall we?"
5. if ( $i == (-1)$ )
  - 5.1. print "no such element present"
  - 5.2. print "make a right choice this time"

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6. else if (i==999)
    6.1. continue the statement    (continue)
7. else
    7.1. system ("cls")
    7.2. ch1←block[i]
    7.3. ch2←property[i]
    7.4. display (l,ch1,ch2)
8. i←999
9. while (option!=5)
10. return 0
11. Stop
```

#### ALGORITHM FOR GET OPTION

```
1. Start
2. print "Enter corresponding number"
3. print "1. Search by ATOMIC NUMBER"
4. print "2. Search by ATOMIC SYMBOL"
5. print "3. Search by ATOMIC NAME"
6. print "4. Search by ATOMIC WEIGHT"
7. print "5. QUIT"
8. print "ENTER YOUR CHOICE"
9. Read a number option
10. return option
11. Stop
```

## ALGORITHM FOR DISPLAY

1. Start
2. print "DIGITAL MODERN PERIODIC TABLE"
3. print "HERE'S YOUR SEARCH RESULT"
4. print "ATOMIC NUMBER" = (i+1)
5. print "ATOMIC SYMBOL" = (symbol[i])
6. print "ATOMIC NAME" = (name[i])
7. print "ATOMIC WEIGHT" = (weight[i])
8. print "BLOCK" = (ch1)
9. print "METALLIC PROPERTY"
10. if (ch2== 'n')
  - 10.1. print "NON METAL"
11. else if (ch2== 's')
  - 11.1. print "METALLOID"
12. else
  - 12.1. print "METAL"
13. print "THANK YOU"