

SHORT NOTES.HEADER FILES

- (1). `<iostream.h>` → `cout`  
→ `cin`
- (2). `<conio.h>` → `getch();`  
→ `clrscr();`
- (3). `<math.h>` → `pow(n,m)`  
→ `power`
- (4). `<iomanip.h>` → `setw(n);`  
→ `setprecision(n);`





(6). tolower()

ch = tolower(Ch);

\* Console Input-Output functions. see <stdio.h>

(i). getch() used to read a character from the keyboard & store it in variable.

Syntax: var = getch();

Eg:-  
char ch;  
ch = getch();

cout << ch; // Output : A

(ii). putchar() used to display a single character on the screen.

Syntax:- putchar(ch);

Eg:-  
char ch = 'a';  
putchar(ch); → a

(iii). gets() used to input a string of characters.

Syntax: gets(str);

(iv). puts() used to display the string value on screen.  
it ends with a newline character.

Syntax: puts(str);

Eg:-  
char str[20];  
str = "Hello world";  
puts(str);

\* Input - Output Stream Function.

(v). get() used to input a single character.

Syntax: cin.get(ch);

(vi). put() used to display a single character.

Syntax: cout.put(ch);

(vii). getline() used to input a string with spaces & it ends with a new line character.

Syntax: cin.getline(str, size);

Eg:-  
char str[20];  
cin.getline(str, 20);

(iv). write(): used to display the string.

Syntax: cout.write(str, size);

Eg:- cout.write("welcome", 4);

\* Structures.

Syntax:- struct structure name

{ number 1;  
number 2;

Eg:-  
struct student  
{ int r;  
char n[20];  
float p;  
};

\* To access the members of a structure, we use a structure variable.

(i). student s1, s2, s3;

struct  
{ int r;  
char n[20];  
float p;  
}; s;

Q. W.A.P to input even nos. upto an inputed no.

```
#include <iostream.h>
#include <conio.h>
```

```
Void main ()
```

```
{ char c;
```

```
int n, i;
```

```
cout << " Enter the no. " ;
```

```
cin >> n;
```

```
i = 2;
```

```
while (i <= n)
```

```
{ cout << i << endl;
```

```
i = i + 2;
```

```
} catch (c);
```

Q. W.A.P to input

of those random nos.

```
#include <iostream.h>
```

```
Void main ()
```

```
{ char c;
```

```
int n, i, a, s;
```

```
s = 0; cout << " Enter the no. " ;
```

```
cin >> n;
```

```
i = 1; while (c <= n)
```

```
{ cout << " Enter any no. " ;
```

```
cin >> a;
```

```
s = s + a;
```

```
i++; }
```

```
cout << " sum = " << s;
```

```
} catch (c);
```

Q. W.A.P to input any no. & reverse that no.

```
#include <iostream.h>
#include <conio.h>
```

```
Void main ()
```

```
{ char c;
```

```
int n, r = 0, a;
```

```
cout << " Enter the no. " ;
```

```
cin >> n;
```

```
while (n > 0)
```

```
{ a = n % 10;
```

```
n = n / 10;
```

```
r = r * 10 + a;
```

```
} catch (c);
```

```
cout << " Reverse no. = " << r;
```

```
} catch (c);
```

Q. W.A.P to input any no. & check whether the no. is palindrome.

```
#include <iostream.h>
```

```
#include <conio.h>
```

```
Void main ()
```

```
{ char c;
```

```
int n, m, r = 0;
```

```
cout << " Enter any no. " ;
```

```
cin >> n;
```

```
m = n; while (n > 0)
```

```
{ a = n % 10;
```

```
n = n / 10;
```

```
r = r * 10 + a;
```

```
} if (r == m) cout << " Palindrome " ;
```

```
else cout << " Not Palindrome " ;
```

```

    } else {
        cout << " Not a palindrome ";
    }
}

Q. WAP to input any no. & find out the sum of individual digits of that no. Ex: if 'n' is 723 then output be 12.

#include <iostream.h>
void main()
{
    clrscr();
    int n, s=0;
    int a;
    cout << " Enter any no. ";
    cin >> n;
    while (n > 0)
    {
        a = n % 10;
        n = n / 10;
        s = s + a;
    }
    cout << " Sum = " << s;
    getch();
}

Q. WAP to check whether the inputted no. is prime or not.

#include <iostream.h>
#include <conio.h>
void main()
{
    clrscr();
    int n, i, m=0, flag=0;
    cout << " Enter the No. to check prime ";
    cin >> n;
    for (i=2; i <= m; i++)
    {
        if (n % i == 0)
            flag = 1;
        m = n/2;
    }
    if (flag == 0)
        cout << " Prime ";
    else
        cout << " Not a prime ";
}

```

```

if (n % i == 0)
    cout << "No. is not prime" << endl;
else
    cout << "No. is prime" << endl;
}

if (flag == 0)
    cout << "No. is prime" << endl;
else
    cout << "No. is not prime" << endl;
}

4. WAP to find out the area of square, rectangle & circle
depending upon the user choice.

#include <iostream.h>
#include <conio.h>

void main()
{
    clrscr();
    int a, b;
    float r;
    char ch;

    do {
        clrscr();
        cout << "\t\t Main Menu \n";
        cout << " Press S for square area \n";
        cout << " Press C for circle area \n";
        cout << " Press R for rectangle area \n";
        cout << " Press Q for quit \n";
        cout << " Enter your choice ";
        cin >> ch;
        switch (ch)
        {
            case 'S' : cout << "Enter the side ";
            case 's' :

```

```

q1= a * a;
cout << "Area of rectangle = " << r;
break;

case 'q':
    cout << "Enter the length and then breadth";
    cin >> a >> b;
    q1= a * b;
    cout << "Area of Rectangle = " << r;
    cout << "Area of Rectangle = " << q1;
    break;

case 'c':
    cout << "Enter the radius";
    cin >> r;
    q1= 3.14 * a * a;
    cout << "Area of Circle = " << q1;
    break;

case 'q':
    cout << "Thank You";
    break;

default : cout << "Wrong choice";
}

```

Q. W.A.P to input any no. & find out the factorial of that no.;

```

#include <iostream.h>
#include <conio.h>
void main ()
{
    clrscr();
    int n, i, f=1;
    cout << "Enter the no." ;
    cin >> n;
    for (i=1; i<=n; i++)
    {
        f= f*i;
    }
    cout << "Factorial = " << f;
    getch();
}

```

Q. W.A.P to display n terms of Fibonacci series;

```

#include <iostream.h>
#include <conio.h>
void main ()
{
    class();
    int n, i, a=0, b=1, c;
    cout << "Enter any no." ;
    cin >> n;
    cout << a << endl;
    cout << b << endl;
    for (i=3; i<=n; i++)
    {
        c= a+b;
        cout << c << endl;
        a=b;
        b=c;
    }
    getch();
}

```

Q. WAP to find out the sum of the following series:-

$$\frac{x}{2} + \frac{x^2}{3} + \frac{x^3}{4} + \dots + \frac{x^n}{n+1}$$

```
#include <iostream.h>
#include <math.h>
```

```
void main ()
{ char c;
```

```
int x, n, i;
float s=0, t;
```

```
cout << "Enter the value x & n"
cin >> x >> n;
```

```
for (i=2, i<=n, i++)
{ t = Pow(x, i-1) / i;
  s = s+t;
```

```
cout << "Sum = " << s;
getch();
```

```
cout << "Sum of series = " << s;
getch();
```

3

Q. WAP to find out the sum of the following series:-

$$\frac{x}{2} - \frac{x^2}{3} + \frac{x^3}{4} - \frac{x^4}{5} + \dots - \frac{x^n}{n+1}$$

```
#include <iostream.h>
#include <math.h>
```

```
void main ()
{ char c;
```

```
int x, n, i;
float s=0, t;
```

```
cout << "Enter x & n"
cin >> x >> n;
```

3

Q. WAP to find out the sum of the following series:-

$$\frac{x}{2} + \frac{x^2}{3} + \frac{x^3}{4} + \dots + \frac{x^n}{n+1}$$

```
#include <iostream.h>
#include <math.h>
```

```
void main ()
{ char c;
```

```
int x, n, i;
float s=0, t;
```

```
cout << "Enter x & n"
cin >> x >> n;
```

3

Q. WAP to find the sum of the following series:-

$$\text{or } \text{for } (i=1, i<=n, i++)
\left| \begin{array}{l} t = Pow(x, i-1) / i; \\ \{ t = Pow(x, i) / i; \\ s = s+t; \end{array} \right.$$

```
cout << "Sum = " << s;
getch();
```

3

Q. WAP to find the sum of the following series:-

$$\frac{x}{2} - \frac{x^2}{3} + \frac{x^3}{4} - \frac{x^4}{5} + \dots - \frac{x^n}{n+1}$$

```
only logic
void main ()
```

```
{ int x, n, i;
float t, s=0;
int p=1;
```

```
cout << "Enter x & n"
cin >> x >> n;
```

```
for (i=1, i<=n; i++)
{ t = Pow(x, i) / i;
  if (p==1)
    p=-1;
  else
    p=1;
  s = s+t;
}
```

```
t = t * p;
```

```
cout << "Sum = " << s;
getch();
```

3

Q. WAP to find out the sum of following series:-

$$\frac{1}{0!} + \frac{1}{1!} + \frac{1}{2!} + \dots + \frac{1}{n!}$$

Void main ()

```
{ class<> C;
int n, i, j, f, s=0, t;
cout << "Enter n";
cin >>n;
for (i=1; i<=n; i++)
{ f = 1;
for (j=1; j<=i; j++)
{ f = f * j;
}
t = s + f;
s = s + t;
}
cout << "Sum = " << s;
}
```

Q. WAP to find out the sum of following series:-

$$\text{for } (j=1; j <= i; ++j) \{ a = f * t; t = t + a; f = f + 2; \}$$

Q. WAP to input the value of n & display the output as known:- If value of n is 5 then output will be

Void main ()

```
{ class<> C;
int n, i, j;
cout << "Enter n";
cin >>n;
for (i=1; i<=n; i++)
{ for (j=1; j<=i; j++)
{ cout << "*";
}
cout << endl;
}
}
```

Q. WAP to find out the sum of series :-

$$(2^2) + (2^2 + 4^2) + (2^2 + 4^2 + 6^2) + \dots + (2^2 + \dots + n^2)$$

Void main ()

```
{ class<> C;
int n, i, j, s=0, f, t;
cout << "Enter n";
cin >>n;
for (i=1; i<=n; i++)
{ for (j=1; j<=i; j++)
{ cout << j;
}
cout << endl;
}
}
```

Q. WAP to find out the sum of series :-

$$(2^2) + (2^2 + 4^2) + (2^2 + 4^2 + 6^2) + \dots + (2^2 + \dots + n^2)$$

Void main ()

```
{ class<> C;
int n, i, j, s=0, f, t;
cout << "Enter n";
cin >>n;
for (i=1; i<=n; i++)
{ for (j=1; j<=i; j++)
{ cout << j;
}
cout << endl;
}
}
```

Logic:- for (i=n; i>=1; i--)

{ for (j=i; j>=1; j--)
{ cout << j;
}
cout << endl;
}

Q. WAP to input the no. of rows & display output in the given format.

5 4 3 2 1  
- - 3 2 1  
- - - 2 1  
- - - - 1

```

int i, j, k, n;
cout << " Enter no. of rows ";
cin >> n;
for (i = n; i >= 1; i--)
{
    { for (j = 0; j <= n; ++j)
        cout << " - ";}
    for (k = i; k >= 1; k--)
    {
        cout << k; // cout << i; => result
    }
    cout << endl;
}
getch();

```

**Result:**

A	B	C	D	E
-	-	-	-	-
A	B	C	D	E
-	-	-	-	-
A	B	C	D	E
-	-	-	-	-

int i, j, k, n;
char ch;
cout << " Enter n ";
cin >> n;
for (i = 1; i <= n; ++i)
{
 { for (j = 1; j <= i; ++j)
 cout << " - ";}
 for (k = i; k >= 1; k--)
 {
 cout << k; // cout << i;
 }
 cout << endl;
}
getch();

Q. result :-

-	-	-	-	-	2	1	2
-	-	-	-	-	3	2	1
-	-	-	-	-	2	3	4
-	-	-	-	-	3	2	1
-	-	-	-	-	4	5	6

```

class
int i, j, k, l, z = 1, d = 1;
for (i = 1; i <= 5; i++)
{
    for (j = 1; j <= 15; j++)
    {
        cout << " - ";
    }
    cout << endl;
}
cout << endl;

```

```

for (k = 1; k >= 1; --k)
{
    cout << k;
}
for (l = 2; l <= 1; ++l)
{
    cout << l;
}
cout << endl;

```

```

getch();

```

P result :-

```

A
B A B
C B A B C
D C B A B C D
E D C B A B C D E
{ int i, j, J, K, n;
char ch = 'A';
cout << "Enter n";
cin >> n;
for (i=1; i<=n; ++i)
{ for (j=n; j>=i; j--)
{ cout << "-";
ch = ch + i;
}
for (K=i; K>=1; --K)
{ cout << --ch;
}
for (J=2; J<=i; ++J)
{ cout << ++ch;
}
ch = 'A';
cout << endl;
}
getch();
}

```

Q. WAP to input any password, check & display whether the password is correct or not. If the password is INDIA.

```
#include <iostream.h>
#include <conio.h>
#include <string.h>
void main()
{ clrscr();
    char a[20];
    cout<<"Enter the Password"; for
        cin>>a;
    if (strcmp(a,"INDIA") == 0)
        cout<<"Password is correct";
    else
        cout<<"Incorrect";
    getch();
}
```

Q. What will be the output of given segment:-

```
char s[] = "COMPUTER - Sc. 2017";
for (int i=0; s[i] != '\0'; ++i)
{ if (!isalpha(s[i]))
    s[i] = '@';
    else if (isupper(s[i]))
        s[i] = s[i+1];
    else
        s[i] = s[i]+1;
}
cout << s;
```

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
C	o	m	P	U	I	T	e	R	-	S	c	.	2	0	1	7

Output:→ o p n U T e f - @ c d @ @ @ @ @

∴ Output → opnUTef-@cd @@@@ @

Q. W.A.P. to enter a line & count & display no. of words in that line.

```
#include <iostream.h>
#include <conio.h>
#include <stdio.h>

void main()
{
    char a[100];
    int i=0, j=0, c=0;
    cout << "Enter any line" ;
    gets(a);
    for(i=0; a[i] != '\0'; i++)
        if(a[i] == ' ')
            c++;
    cout << "No. of words = " << c;
}
```

d. W.A.P. to input 10 nos. in an array & find out sum of even elements.

```
#include <iostream.h>
#include <conio.h>
void main()
{
    int a[10], i, j;
    cout << "Enter 10 nos." ;
    for(i=0; i<10; i++)
        cin >> a[i];
    for(i=0; i<10; i++)
        if((a[i] % 2) == 0)
            j += a[i];
    cout << "Sum = " << j;
}
```

Q. W.A.P. to input 10 nos. in an array & find out the largest no. in the array.

```
#include <iostream.h>
#include <conio.h>
void main()
{
    int a[10], i, l;
    cout << "Enter the 10 elements" ;
    for(i=0; i<10; i++)
        cin >> a[i];
    l = a[0];
    for(i=0; i<10; i++)
        if(l < a[i])
            l = a[i];
    cout << "Largest No. = " << l;
}
```

Q. WAP to input 10 nos. in an array & search for a no. whether it is present or not in the array.

```
#include <iostream.h>
```

```
#include <conio.h>
```

```
void main ()
```

```
{ int a[10], i, n, t;
```

```
for (i=0; i<n; i++)
{ cout << " Enter 10 nos.";
```

```
cin >> a[i];
```

```
}
```

```
cout << " Enter no. to be searched ", cin >> n;
```

```
for (i=0; i<n; i++)
{ if (a[i] == n)
{ cout << " No. is found ";
t = 1;
}
```

```
getch();
```

```
} // End of main
```

Q. WAP to input an array & reversed of that array.

```
#include <iostream.h>
```

```
#include <conio.h>
```

```
void main ()
```

```
{ int a[20], i, m, n, t;
```

```
cout << " Enter size of array " ; cin >> m;
```

```
for (i=0; i<m; i++)
{ cout << " Enter an array " ; cin >> a[i];
```

```
}
```

```
}

J=n-1;
```

```
for (i=0; i<m/2; i++)
{ t = a[i];

```

```
    a[i] = a[J];

```

```
    a[J] = t;
}
```

J--;

cout << " Reversed array ";

```
for (i=0; i<n; i++)
{ cout << a[i];
}
```

```
getch();
```

Q. WAP to input an array & inter change first half array element with second half.

```
void main ()
```

```
{ int i, J, n, a[20], t;
```

```
cout << " Enter size of array not more than 20 ";
```

```
cin >> n;
```

```
for (i=0; i<n; i++)
{ cout << " Enter array " ;

```

```
cin >> a[i];
}
```

```
J=n/2;
```

```
for (i=0; i<n/2; i++)
{ t = a[i];

```

```
    a[i] = a[J];

```

```
    a[J] = t;
}
```

```
J++;
}
```

cout << " Reversed array ";

```
for (i=0; i<n; i++)
{ cout << a[i];
}
```

```
getch();
```

Q. WAP to input an array & sort them in ascending order:-

```

void main()
{ int a[20], n, i, j, t
  cout << " Enter size ";
  cin >> n;
  for (i=0; i<n; ++i)
  { cout << " Enter array ";
    cin >> a[i];
  }
  for (i=0; i<n; ++i)
  {
    for (j=0; j<n-1; ++j)
    {
      if (a[j] > a[j+1])
      {
        t = a[j];
        a[j] = a[j+1];
        a[j+1] = t;
      }
    }
  }
  cout << endl;
  cout << " Sorted array " << endl;
  for (i=0; i<n; ++i)
  {
    cout << a[i] << endl;
  }
  getch();
}
  
```

3x3

Q. WAP to input elements in 2D array of size 3x3 & display them in matrix form.

```

#include <iostream.h>
#include <conio.h>
#include <iomanip.h>
void main()
{ int a[3][3], i, j;
  for (i=0; i<3; ++i)
  {
    for (j=0; j<3; ++j)
    {
      cout << " Enter any no. ";
    }
  }
}
  
```

`cin >> a[i][j];`

`}

char c;`

`cout << " Matrix : " << endl;`

`for (i=0 ; i<3 ; ++i)`

`{ for (j=0 ; j<3 ; ++j)`

`cout << setw(4) << a[i][j];`

`cout << endl;`

`}

glitch;`

- Q. W.A.P to input elements in 2-D array & find out the sum of elements whose one's value is 2.

#include <iostream.h>  
#include <conio.h>  
#include <iomanip.h>

void main()  
{ int i, j, a[4][4], s=0

for (i=0 ; i<4 ; ++i)  
for (j=0 ; j<4 ; ++j)

{ cout << "Enter anyno.";

cin >> a[i][j]; }

for (i,j=0 ; i<4 ; ++i+j)
 if (a[i][j] == 2)
 s = s + a[i][j];

char c;

cout << "sum = " << s;

glitch;

Q. W.A.P to input 2-D array (4x4) & find out sum of both diagonals:

void main()  
{ int a[4][4], i, j, s1=0, s2=0

for (i=0 ; i<4 ; ++i)
 for (j=0 ; j<4 ; ++j)

{ cout << "Enter array";

cin >> a[i][j];

for (i=0 ; i<4 ; ++i)
 for (j=0 ; j<4 ; ++j)
 { if (i==j)
 s1 = s1 + a[i][j];
 if (i+j == 3)
 s2 = s2 + a[i][j]; }

cout << "sum of d1 = " << s1;
 cout << "sum of d2 = " << s2;

#include <iostream.h>  
#include <conio.h>  
#include <iomanip.h>

void main()  
{ int i, j, a[4][4], s=0

for (i=0 ; i<4 ; ++i)
 for (j=0 ; j<4 ; ++j)

{ cout << "Enter anyno.";

cin >> a[i][j]; }

for (i,j=0 ; i<4 ; ++i+j)
 if (a[i][j] == 2)
 s = s + a[i][j];

logic

for (i=0 ; i<n ; ++i)
 { for (j=0 ; j<n ; ++j)

if (i==0 || j==0 || j==n-1 || j==n-1)
 s = s + a[i][j]; }

Q. WAP to input 2D array of 4x4 & display the upper half matrix. (upper half A[4])

00	01	02	03
11	12	13	
22	23		
31			

```
#include <iostream.h>
#include <conio.h>
#include <iomanip.h>

void upperhalf (int a[4][4])
{
    int i, j;
    for (i=0; i<n; i++)
    {
        for (j=0; j<n; ++j)
            if (j >= i)
                cout << setios(s) << a[i][j];
            else
                cout << setios(s) << ' ';
        cout << endl;
    }
}

void main()
{
    int a[4][4], i, j;
    for (i=0; i<4; ++i)
        for (j=0; j<4; ++j)
            { cout << "Enter ";
              cin >> a[i][j];
            }
    upperhalf (a);
    getch();
}
```

Q. W.A.P. to input name, Roll no., & Percentage of 10 students. Count & display the records of those student - s. who secured 80% or above using structures.

```
#include <iostream.h>
#include <conio.h>
struct student
{
    char n[20];
    int r;
    float p;
};

void main()
{
    student s[10];
    int c=0, i;
    cout << "Enter the name";
    cin >> s[i].n;
    cout << "Enter Roll no.";
    cin >> s[i].r;
    cout << "Enter Percentage";
    cin >> s[i].p;
    if (s[i].p >= 80)
    {
        cout << s[i].n << s[i].r << s[i].p;
        c=c+1;
    }
    cout << "Total No. of students above 80%" << c;
    getch();
}
```

## CHAPTER-7.

### DATA FILE HANDLING.

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The main purpose of using file is to store our data in secondary storage device memory of computer. Normally we store our data in RAM which is temporary storage. So whatever we store in RAM will wash out as we switch off the computer. So, to store data permanently in secondary storage device, the ~~file handling program~~ is used.

Before going on writing the second from the file, the very first step is to open the file. There are three classes available to open the file.

- 1. ifstream
- 2. ofstream
- 3. fstream

These classes are declared within <fstream.h> header file. So, in every file handling program, <fstream.h> header file may be included. This header file itself includes <iostream.h> header file. So, there is no need to include <iostream.h> in file handling program.

#### ifstream

To open the file in output (writing mode), ofstream class is used. If the file is already existing then the existing records of this file will be erased & new one will be created.

**Syntax:** ifstream file ("External file name");  
 file is an internal file name & can be any user define word having the suffice of the buffer allotted for the temporary file. So, data is stored in this buffer priorized to store in the secondary storage device. An external file name is the data file name stored on the disk to store the records of the file.  
 Cx-> ifstream file ("abc.txt");

#include <iomanip.h>  
 #include <conio.h>

```
void main ()
```

```
  char n[20];  

  int a;
```

```
  ifstream file ("student.dat");
```

```
  cout << "Enter name, Rollno, & Percentage";
```

```
  cin >> n >> a >> p;
```

```
  cout << "Want to enter more records";
```

```
  char ch = 'y';
```

```
  while (ch == 'y')
```

```
  {
```

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FILE STREAM is used to handle the file to open the existing data files to reading the seconds if stream class is used.

Syntax:- ifstream filename("external file name");

f. WAP to read student records from the file student.dat.

```
#include <iostream.h>
#include <fstream.h>
void main()
{
    char n[20];
    int q;
    float p;
    ifstream f("student.dat");
    cout << "Name = " << endl;
    cout << "Roll.no. = " << endl;
    cout << "Percentage = " << endl;
    cout << endl;
    f.close();
}
```

g. WAP to read the content from a text file xyz.txt

Count & display no. of digits, no. of capital letter, no. of small character, special character.

```
void count()
{
    ifstream f("xyz.txt");
    int d=0, c=0, s=0, sp=0;
    char ch;
    while(f.get(ch))
    {
        if(isdigit(ch)) d++;
        if(isupper(ch)) c++;
        if(islower(ch)) s++;
        if(ispunct(ch)) sp++;
    }
    cout << "No. of digits = " << d << endl;
    cout << "No. of Capital letters = " << c << endl;
    cout << "No. of Small letters = " << s << endl;
    cout << "No. of Special characters = " << sp << endl;
}
```

h. Write a function to read a content from a text file abc.txt. Count & display the no. of capital letters in it.

```
void count()
{
    ifstream f("abc.txt");
    int c=0;
```

Q.

Write a function to read a content from the file lower.txt & write another file upper.txt by converting each small letter into capital letters.

void convert()

```
{ ifstream f ("lower.txt");
ofstream g ("upper.txt");
char ch;
while (f)
```

```
{ if (ch >= 97 & ch <= 122)
    ch = ch - 32;
```

```
} f.close();
g.close();
```

```
f.close();
f.close();
```

```
g.close();
g.close();
```

```
g.close();
g.close();
```

```
void convert()
```

```
{ ifstream f ("lower.txt");
char ch;
while (f)
```

```
{ if (ch >= 97 & ch <= 122)
    ch = ch - 32;
```

```
} f.close();
f.close();
```

```
g.close();
g.close();
```

Q. Write to read a content from a file story.txt

Count & display the occurrence of 'A' in the file story.txt

void convert()

```
{ ifstream f ("story.txt");
int c = 0;
char ch;
while (f)
```

```
{ if (ch == 'A')
    c++;
if (ch == 'a')
    c++;
```

```
} f.close();
f.close();
```

```
cout << "No. of lines started with A = " << c;
f.close();
f.close();
```

```
cout << "No. of lines started with a = " << c;
f.close();
f.close();
```

```
cout << "No. of lines started with A = " << c;
f.close();
f.close();
```

```
cout << "No. of lines started with a = " << c;
f.close();
f.close();
```

```
cout << "No. of lines started with A = " << c;
f.close();
f.close();
```

```
cout << "No. of lines started with a = " << c;
f.close();
f.close();
```

```
cout << "No. of lines started with A = " << c;
f.close();
f.close();
```



(3) ios::app

To open the existing data file for appending [adding] the records.

(4) ios::trunc

To open the existing data file & delete all the records.

(5) ios::ate

It is used to open the existing data file and set the file pointer at last record.

(6) ios::beg

It is used to open the file pointer at the beginning of the record.

(7) ios::binary

It is used to open a data file in binary form.

Notes:

File mode

c.g:-

fstream fil("student.dat", ios::out | ios::binary);

Where char \* is the cast operator

File pointer

c.g:-

fstream fil("student.dat", ios::in | ios::binary);

Where char \* is the cast operator

CLOSE FUNCTION.

After completing input or output operation in the file. Finally the file will be close by using close();

Syntax:- fileobj.close();

INPUT OUTPUT OPERATION.

Write ( )

To transfer the content of record from buffer to disk data file, write( ) is used.

Syntax:- fileobj.write (char \*) & record, sizeof(record);

Where record is group variable which can be structure variable or class object.

& sizeof( ) will return the size of variable in terms of memory bytes.

e.g:- struct st

```
{ char -> L20; int -> 4 }
```

```
int s; float p; char d;
```

```
s = 3; p = 3.5; d = 'A';
```

```
cout << sizeof(s); —> 26.
```

Q. WAP to create a datfile emp.dat in which store name, code & basic pay of an employee.

```
#include <iostream.h>
#include <conio.h>
```

```
struct emp
```

```
{ char n[20];
```

```
int c;
float basic;
}
```

```
int main()
{
    float basic;
    char n[20];
    int c;
    ifstream fin;
    ofstream fout;
    emp e;
    fin.open("emp.dat", ios::out | ios::binary);
    cout << "Enter name, code & basic pay";
    cin >> e.n >> e.c >> e.basic;
    fin.write((char*)&e, sizeof(e));
    cout << "Want to enter more records";
    cin >> ch;
    if(ch == 'y')
        do
    {
        cout << "Enter name, code & basic pay";
        cin >> e.n >> e.c >> e.basic;
        fin.write((char*)&e, sizeof(e));
    } while (ch == 'y');
    fin.close();
    getch();
}
```

```
void main()
{
    float basic;
    char n[20];
    int c;
    ifstream fin;
    ofstream fout;
    emp e;
    fin.open("emp.dat", ios::in, ios::binary);
    fin.read((char*)&e, sizeof(e));
    cout << "Code = " << e.c;
    cout << "Basic Pay = " << e.basic;
}
```

(2). Read () - To read the record from existing data file & transfer it into buffer for processing, read () is used.

Syntax:- filevar.read (char \* d, record size of record).

(3)

eof() - (end of file) To check whether the file pointer is at end of file marker or not, eof () is used. This function will return 1 (true), if end of file mark is encountered otherwise it will return 0 (false).

Syntax:- filevar.eof (C)

Q. WAP to read the content of records of employee from the file emp.dat.

#include <iostream.h>
#include <conio.h>

struct emp
{
 char n[20];
 int c;
 float basic;
};

int main()
{
 float basic;
 char n[20];
 int c;
 ifstream fin;
 ofstream fout;
 emp e;
 fin.open("emp.dat", ios::in, ios::binary);
 fin.read((char\*)&e, sizeof(e));
 cout << "Code = " << e.c;
 cout << "Name = " << e.n;
 cout << "Basic Pay = " << e.basic;
}

3 Jf. und Ctron de, sigy (c);  
Jf. close (c),  
getnC;

1) main ( )  
2) ~~function~~ ~~function~~  
3) ~~function~~ ~~function~~  
4) ~~function~~ ~~function~~

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```

f.output();
f.read((char*)&c, sizeof(c));
f.close();
}

f.close();
break;
}

case 'S':
{
f.open("emp.dat", ios::in | ios::out | ios::binary);
cout << "Enter code to be searched";
cin >> m;
f.read((char*)&c, sizeof(c));
while (f.eof() == 0)
{
if (m == c.outnumcode())
{
c.output();
}
}
f.read((char*)&c, sizeof(c));
}

f.close();
break;
}

case 'D':
{
f.open("temp.dat", ios::in | ios::out | ios::binary);
f.write((char*)&c, sizeof(c));
cout << "Enter code to be deleted";
cin >> m;
f.read((char*)&c, sizeof(c));
while (f.eof() == 0)
{
if (m != c.outnumcode())
{
f.read((char*)&c, sizeof(c));
}
}
f.close();
break;
}
}

```

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## Random Accessing.

File pointers  
Every file maintains two pointers called get and put pointers which tells the current position in the file when writing or reading take place. These pointers help in performing random accessing in files that means moving directly to any position in the file instead of moving sequentially.

Random access can be performed with the help of following four functions:

- i) tell()
- ii) seek()
- iii) seekg()

**Tell<sup>i</sup>( ) & Tell<sup>j</sup>( )**

Sunrise. Silver, half-shaded;

```
cfg := int p = f. telling C;
```

The value of p is the byte no. of file pointer which tells us that from this byte no., we read the second.

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for writing  
fseek()

for reading  
fseek()

Seek() & seekg() are used to set the file pointer at particular byte no.

i.e. ios::cur  
It suffers from the current position from the file.  
e.g.: f.seek(10, ios::cur);

When n is the byte no. where we want to set the file pointer  
filevar.seekpos seekg(n);

It will move the file pointer 10 bytes from the current location.  
e.g.: f.seek(-10, ios::cur);

(ii) Seek() can be used in two ways:  
By absolute position  
e.g.: f.seekg(30);

i.e. ios::end  
It suffers to the end of the file.  
e.g.: f.seekg(-5, ios::end);

It will move the file pointer to byte no. 30  
By relative position  
It can be used by 3 ways:-

e.g.: f.read(str, 10);  
Textfile named : para.txt. Assume that each word is separated by a single space & no blank space in the beginning of file.

(i). ios::beg  
It will move the file pointer from the 20 byte no. refers to the beginning of the file.

beginning file 20 byte pr-