Quick revision in Text Files in C++

Text file: A file that contains data in the form of ASCII characters. It is readable as well as printable using notepad. Character translation takes place for eg. **\n** or **endl** is converted into a new line.

ifstream : A class whose objects are used to read from a file.
ofstream : A class whose objects are used to write in a file.
fstream : A class used for both reading and writing.

File Modes:

1. ios::in – for reading from a file
2. ios::out – for writing in a file (always starts fresh)
3. ios::app – for appending in a file
4. ios::ate – for appending by default and also writing any where in the file.
5. ios::in | ios::out – for reading and writing i.e for file modification
6. There is no explicit mode for a text file

Explanation of few important lines:

1. char ch;
   f1.get(ch);
   A single character is read from the current position of get pointer in the file **f1** into the character **ch.**

2. char w[20];
   f1>>w;
   A word (multiple characters without spaces) is read from the current position of get pointer in the file **f1** into the array **w**.

3. char s[80];
   f1.getline(s,80);
   A line (multiple characters with spaces) is read from the current position of get pointer in the file **f1** into the array **s**.

4. char s[30];
   f1<<s;
   The array **s (**multiple characters with/without spaces) is written in the file **f1** from the current position of put pointer.

5. char ch;
   f1.put(ch);
   The character **ch** (single character) is written in the file **f1** from the current position of put pointer.

6. f1.seekg(10); or *f1.seekg(10,ios::beg);*

sets the get pointer on the 10th byte from the beginning of the file, so that reading can take place from 10th byte onward.

7. f1.seekg(-15,ios::cur);
   sets the get pointer on the 15th byte backward from the current position of the get pointer in the file, so that reading can take place from that byte onward.

8. f1.tellg( );
   returns the current position of the get pointer in the file f1.
   eg. int pos;
   pos=f1.tellg( );

Write the function definitions for the following operations.

1. To write lines of text in a text file "stu.txt" .
2. To add lines of text in a text file "stu.txt".
3. To display contents of a text file "stu.txt".
4. To print the content of a text file "stu.txt".
5. To count the number of lines in a text file "stu.txt".
6. To count the number of characters in a text file "stu.txt".
7. To count the number of digits in a text file "stu.txt".
8. To count the number of capital letters in a text file "stu.txt".
9. To count the number of words in a text file "stu.txt".
10. To count the number of vowels in a text file "stu.txt".
11. To count the number of lines starting with "A" in a text file "stu.txt".
12. To count the number of words starting with vowels in a text file "stu.txt".
13. To count the number of occurrences of the word "is" in a text file "stu.txt".
14. To change the cases in a text file "stu.txt".
15. To Copy the words starting with an upper case character from a text file "stu.txt" to a file named "copy.txt".
16. To delete the words starting with a lower case character from the file "stu.txt".
17. To search for a word passed as a parameter in the file "stu.txt" and display "successful" if found, otherwise display "Unsuccessful";

Ans1

```
void wtstudent( )
{
  ofstream f("stu.txt");
  char s[80];
  char resp;
  do
  {
    cout<<"\nEnter a line : ";
    cin.getline(s,80);;
    f<<s<<endl;
    cout<<"\nWant to enter more (y/n): ";
```

```
    cin>>resp;
   }while(resp=='y');
   f.close( );
}
```

Ans2

```
void atstudent( )
{
  fstream f;
  f.open("stu.txt",ios::app);
  char s[80];
  char resp;
  do
  {
    cout<<"\nEnter a line : ";
    cin.getline(s,80);;
    f<<s<<endl;
    cout<<"\nWant to enter more (y/n): ";
    cin>>resp;
   }while(resp=='y');
   f.close( );
}
```

Ans3

```
void disstudent( )
{
  ifstream f("stu.txt");
  char s[80];
  while(f.getline(s,80)))
    cout<<s<<endl;
   f.close( );
}
```

or

```
void disstudent( )
{
  ifstream f("stu.txt");
  char ch;
  while(f.get(ch)))
    cout<<ch;
   f.close( );
}
```

Ans4

```
void prstudent( )
{
  ifstream f("stu.txt");
  ofstream f1("prn");
  char s[80];
  while(f.getline(s,80)))
    f1<<s<<endl;
   f.close( );
}
```

or

```
void prstudent( )
{
  ifstream f("stu.txt");
  ofstream f1("prn");
  char ch;
  while(f.get(ch)))
    f1<<ch;
   f.close( );
}
```

Ans5.

```
void clstudent( )
{
  ifstream f("stu.txt");
  char s[80];
```

```
  int count=0;
  while(f.getline(s,80)))
    count++;
   f.close( );
cout<<"\nThe number of lines : "<<count;
}
```

Ans6.

```
void ccstudent( )
{
  ifstream f("stu.txt");
  char ch;
  int count=0;
  while(f.get(ch)))
    count++;
   f.close( );
cout<<"\nThe no. of chars :
"<<count;
}
```

or

```
void ccstudent( )
{
  ifstream f("stu.txt");
  f.seekg(0,ios::end);
  int count=f.tellg( )/sizeof(ch);
  f.close( );
 cout<<"\nThe no. of chars :
"<<count;
}
```

Ans7.

```
#include <ctype.h>
void cdstudent( )
{
  ifstream f("stu.txt");
  char ch;
  int count=0;
  while(f.get(ch)))
  {
       if(isdigit(ch))
            count++;
   }
   f.close( );
cout<<"\nThe no. of digits : "<<count;
}
```

Ans8.

```
#include <ctype.h>
void ccapstudent( )
{
  ifstream f("stu.txt");
  char ch;
  int count=0;
  while(f.get(ch)))
  {
       if(isupper(ch))
            count++;
   }
   f.close( );
```

```
 cout<<"\nThe no. of capital letters : "<<count;
}
```

Ans9.
```
void cwdstudent( )
{
  ifstream f("stu.txt");
  char w[20];
  int count=0;
  while(f>>w)
        count++;
  f.close( );
  cout<<"\nThe no. of words : "<<count;
}
```

Ans10.
```
void cvwstudent( )
{
  ifstream f("stu.txt");
  char ch;
  int count=0;
  while(f.get(ch)))
  {
      if(ch=='a' || ch=='e' || ch=='i' || ch=='o' || ch=='u')
          count++;
   }
   f.close( );
 cout<<"\nThe no. of vowels : "<<count;
}
```

Ans11.
```
void clastudent( )
{
  ifstream f("stu.txt");
  char s[80];
  int count=0;
  while(f.getline(s,80)))
  {
  if(s[0]=='A')
     count++;
  }
   f.close( );
  cout<<"\nThe lines starting with A is : "<<count;

}
```

Ans12.
```
void cwvstudent( )
{
  ifstream f("stu.txt");
```

```
  char w[20];
  int count=0;
  while(f>>w)
  {
       if(w[0]=='a' || w[0]=='e' || w[0]=='i' || w[0]=='o' || w[0]=='u')
            count++;
   }
   f.close( );
   cout<<"\nThe number of words starting with a vowel is : "<<count;
}
```

Ans13.
```
#include <string.h>
void cisstudent( )
{
  ifstream f("stu.txt");
  char w[20];
  int count=0;
  while(f>>w)
  {
       if(strcmp("is",w)==0)
            count++;
   }
   f.close( );
   cout<<"\nThe number of occurrences of <is>  are : "<<count;
}
```

Ans14.
```
#include <ctype.h>
void chcasestudent( )
{
  fstream f;
  f.open("stu.txt",ios::in | ios::out);
  char ch;
  while(f.get(ch))
  {
       if(isupper(ch))
            ch=tolower(ch);
       else if(islower(ch))
                 ch=toupper(ch);
       f.seekg(-sizeof(ch),ios::cur);
       f.put(ch);
   }
   f.close( );
}
```

Ans15.
```
#include <ctype.h>
void copystudent( )
```

```
{
  ifstream f("stu.txt");
  ofstream f1("copy.txt");
  char w[20];
  while(f>>w)
  {
       if(isupper(w[0]))
            f1<<w<<' ';
   }
   f.close( );
   f1.close();
}
```

Ans16.
```
#include <ctype.h>
#include <stdio.h>
void delstudent( )
{
  ifstream f("stu.txt");
  ofstream f1("temp.txt");
  char w[20];
  while(f>>w)
  {
       if(!(islower(w[0])))
            f1<<w<<' ';
   }
   f.close( );
   f1.close();
   remove("stu.txt");
  rename("temp.txt","stu.txt");
}
```

Ans17.
```
#include <string.h>
void serstudent(char name[20] )
{
  ifstream f("stu.txt");
  char w[20];
  int flag=0;
  while(f>>w)
  {
       if(strcmp(w,name)==0)
       {
            flag=1;
            break;
       }
}
 f.close( );
```

```
  if(flag==1)
     cout<<"\nSuccessful";
  else
     cout<<"\nUnsuccessful";
}
```