**Q1. Write a C++ program to read text file and count number of characters in it.**

#include<iostream>  
#include<fstream>  
using namespace std;  
int main()  
{  
        ifstream  fin("read.txt");  
        char ch;  
        int i, c=0, sp=0;  
        while(fin)  
        {  
                fin.get(ch);  
                i=ch;  
                if((i > 63 && i < 91) || (i > 96 && i < 123))  
                        c++;  
                else  
                        if(ch== ' ')  
                                sp++;  
        }  
        cout<<"\n No. of Characters in a File : "<<c;  
        cout<<"\n Space between the Words     : "<<sp;  
        return 0;  
}

**Q2. Write a C++ program to open output file 'a.txt' and append data to it.**

#include<iostream>  
#include<string>  
#include<fstream>  
using namespace std;  
  
int main()  
{  
    ofstream fout;  // Create Object of Ofstream  
    ifstream fin;  
    fin.open("a.txt");  
    fout.open ("a.txt",ios::app); // Append mode  
    if(fin.is\_open())  
        fout<< "\n Writing to a file opened from program.\n"; // Writing data to file  
    cout<<"\n Data has been appended to file";  
    fin.close();  
    fout.close(); // Closing the file  
    return 0;  
}

**Q3. Write a program to copy the contents of one text file to another while changing the case of every alphabet.**

#include<iostream>  
#include<fstream>  
#include<string.h>  
using namespace std;  
int main()  
{  
     ifstream fin;  
     fin.open("FIRST.TXT");  
     ofstream fout;  
     fout.open("SECOND.TXT");  
     char ch;  
     while(!fin.eof())  
     {  
          fin.get(ch);  
          if(ch>=97 && ch<=122)  
          {  
               ch=toupper(ch);  
          }  
          else if(ch>=65 && ch<=90)  
          {  
               ch=tolower(ch);  
          }  
          fout<<ch;  
     }  
     cout<<"\n Data has been copied";  
     fin.close();  
     fout.close();  
     return 0;  
}

**Q4. Write a C++ program to merge the two files.**

#include<iostream>  
#include<fstream>  
#include<stdio.h>  
#include<stdlib.h>  
using namespace std;  
int main()  
{  
     ifstream fin1, fin2;  
     ofstream fout;  
     char ch, file\_name1[20], file\_name2[20], file\_name3[30];  
     cout<<"\n Enter First File Name with Extension '.txt'    :   ";  
     gets(file\_name1);  
     cout<<"\n Enter Second File Name with Extension '.txt'   :   ";  
     gets(file\_name2);  
     cout<<"\n Enter Third File Name with Extension '.txt' ";  
     cout<<"\n (which will Store the Contents of \n First File and Second File)                     :   ";  
     gets(file\_name3);  
       
     fin1.open(file\_name1);  
     fin2.open(file\_name2);  
     if(fin1==NULL || fin2==NULL)  
     {  
          cout<<"\n Invalid File Name. \n There is no such File or Directory ...";  
          exit(EXIT\_FAILURE);  
     }  
     fout.open(file\_name3);  
     if(!fout)  
     {  
          cout<<"\n Invalid File Name. \n There is no such File or Directory ...";  
          exit(EXIT\_FAILURE);  
     }  
     while(fin1.eof()==0)  
     {  
          fin1>>ch;  
          fout<<ch;  
     }  
     while(fin2.eof()==0)  
     {  
          fin2>>ch;  
          fout<<ch;  
     }  
     cout<<"\n Two Files have been Merged into "<<file\_name3<<" File Successfully...!!!";  
     fin1.close();  
     fin2.close();  
     fout.close();  
     return 0;  
}

**Q5. Write a C++ program that counts the total number of characters, words and lines in the file.**

#include<iostream>  
#include<fstream>  
#include<string.h>  
#include<cstdlib>  
using namespace std;  
int main()  
{  
     int noc=0,now=0,nol=0;  
     FILE \*fr;  
     char fname[20],ch;  
  
     cout<<"\n Enter Source File Name : ";  
     gets(fname);  
     fr=fopen(fname,"r");  
     if(fr==NULL)  
     {  
          cout<<"\n Invalid File Name. \n No such File or Directory ";  
          exit(0);  
     }  
     ch=fgetc(fr);  
     while(ch!=EOF)  
     {  
          if(ch!=' ' && ch!='\n')  
               noc++;  
          if(ch==' ')  
               now++;  
          if(ch=='\n')  
          {  
               nol++;  
               now++;  
          }  
          ch=fgetc(fr);  
     }  
     fclose(fr);  
     cout<<" -------------------------------------";  
     cout<<"\n Total No. of Characters  : "<<noc;  
     cout<<"\n Total No. of Words       : "<<now;  
     cout<<"\n Total No. of Lines       : "<<nol;  
  
     return 0;  
}

**Q6. There are 50 records in a file. Each record contains 6-character item-code, 20 characters for item-name and an integer price. Write a program to read these records, arrange them in the descending order of price and write them in the same file, overwriting the earlier records.**

#include<iomanip>  
#include<iostream>  
#include<fstream>  
#include<string.h>  
#include<stdlib.h>  
#define MAX 3  
using namespace std;  
class Item  
{  
     public:  
          char code[6];  
          char name[200];  
          int qty, price;  
     public:  
          void AcceptData();  
          void DisplayData();  
          friend void Sort(Item \*, int);  
};  
void Item::AcceptData()  
{  
     cout<<"\n Item Code : ";  
     cin>>code;  
     cout<<"\n Item Name : ";  
     cin>>name;  
     cout<<"\n Quantity  : ";  
     cin>>qty;  
     cout<<"\n Price     : ";  
     cin>>price;  
     cout<<"\n --------------------------------- \n\n";  
}  
void Item::DisplayData()  
{  
     cout.setf(ios::left, ios::adjustfield);  
     cout<<setw(8)<<code<<setw(8)<<name;  
  
     cout.setf(ios::right, ios::adjustfield);  
     cout<<setw(8)<<qty<<setw(8)<<price<<endl;  
}  
void Sort(Item \* T, int n)   //Sort() function for arranging the price in descending order  
{  
     for(int i = 0; i < n - 1; i++)  
     {  
          for(int j = 0; j < n - 1 - i; j++)  
          {  
               if(T[j].price < T[j + 1].price)  
               {  
                    Item tmp = T[j];  
                    T[j] = T[j + 1];  
                    T[j + 1] = tmp;  
               }  
          }  
     }  
}  
int main( )  
{  
     Item it[MAX];  
     int i;  
     fstream file;  
  
     for(i=0; i<MAX; i++)  
  
     it[i].AcceptData();  
     Sort(it, MAX);  
     file.open("item.txt", ios::trunc | ios::in | ios::out | ios::binary);  
     file.seekg(0, ios::beg);  
     file.clear();  
     for(i=0; i<MAX; i++)  
     file.write((char \*)&it[i], sizeof(it));  
     file.seekg(0, ios::beg);  
     cout<<" Displaying Data ";  
     cout<<"\n --------------------------------- \n";  
     for(i=0; i<MAX; i++)  
     {  
          file.read((char \*)&it[i], sizeof(it));  
          it[i].DisplayData();  
     }  
     return 0;  
}

**Q7. A file 'Employee.txt' contains empno and empname. Write a C++ program to add and read contents of this file and search employee whose name is 'XYZ'.**

#include<iostream>  
#include<stdio.h>  
#include<string.h>  
#include<cstdlib>  
using namespace std;  
  
struct Employee  
{  
     int empno ;  
     char empname[20];  
};  
int main()  
{  
     struct Employee e;  
     FILE \*fp;  
     int eno;  
     char ename[20],c;  
     int ch;  
     while(1)  
     {  
          cout<<"\n\n 1. Add Records in the File";  
          cout<<"\n 2. Search Record by Employee No.";  
          cout<<"\n 3. Search Employee whose Name is 'XYZ'";  
          cout<<"\n 4. Display All Records";  
          cout<<"\n 5. Search Record by Employee Name";  
          cout<<"\n 6. Exit";  
          cout<<"\n\n Enter Your Choice : ";  
          cin>>ch;  
          switch(ch)  
          {  
               case 1:  
                    fp=fopen("employee.txt","ab");  
                    while (1)  
                    {  
                         cout<<"\n Enter Employee Number :  ";  
                         cin>>e.empno;  
                         fflush(stdin);  
                         cout<<"\n Enter Employee Name   :  ";  
                         cin>>e.empname;  
                         fflush(stdin);  
                       
                         fwrite(&e,sizeof(e),1,fp);  
                         fflush(stdin);  
                         cout<<"\n\n Do You Want to Continue?(Y/N) : ";  
                         cin>>c;  
                         if(c=='n' || c=='N')  
                              break;  
                         }  
                         fclose(fp);  
                    break;  
                      
               case 2:  
                    fp=fopen("employee.txt","rb");  
                    cout<<"\n Enter Employee No.  : ";  
                    cin>>eno;  
                     
                    while(fread(&e,sizeof(e),1,fp))  
                    {  
                         if(eno == e.empno)  
                         {  
                              cout<<"\n\t"<<e.empno<<" : "<<e.empname;                              
                              break;  
                         }  
                    }  
                    fclose(fp);  
                    break;  
               case 3:  
                    fp=fopen("employee.txt","rb");  
                    while(fread(&e,sizeof(e),1,fp))  
                    {  
                         if(strcmp(e.empname, "XYZ")==0)  
                         {  
                              while(1)  
                              {  
                                   cout<<"\n\t"<<e.empno<<" : "<<e.empname;  
                                   break;  
                              }  
                         }  
                    }  
                    fclose(fp);  
                    break;  
               case 4:  
                    fp=fopen("employee.txt","rb");  
                    while (fread(&e,sizeof(e),1,fp))  
                    {  
                         while(1)  
                         {  
                              cout<<"\n\t"<<e.empno<<" : "<<e.empname<<endl;  
                              break;  
                         }  
                    }  
                    fclose(fp);  
                    break;  
               case 5:  
                    fp=fopen("employee.txt","rb");  
                    cout<<"\n Enter Employee Name  : ";  
                    cin>>ename;  
                    while(fread(&e,sizeof(e),1,fp))  
                    {  
                         if(strcmp(ename,e.empname)==0)  
                         {  
                              while(1)  
                              {  
                                   cout<<"\n\t"<<e.empno<<" : "<<e.empname;  
                                   break;  
                              }  
                         }  
                    }  
                    fclose(fp);  
                    break;  
               case 6:  
                    exit(0);  
                      
               default:  
                    cout<<"\n Invalid Choice";  
          }  
     }  
     return 0;  
}

**Q8. A company has following details of their employees in the file 'emp.dat'    
  
a. Emp Id  
b. Emp Name  
c. Emp Address  
d. Emp Dept (Admin/Sales/Production/IT)  
e. Emp Phone  
f. Emp Age  
  
Write a C++ program to read the above file. Create new file such as Adm.dat, Sal.dat, Pro.dat, IT.dat respectively to store the employee details according to their department.**

#include<iostream>  
#include<string.h>  
#include<stdio.h>  
#include<cstdlib>  
#include<fstream>  
  
using namespace std;  
char empfile[30]   = "Employee.txt";  
char ITfile[20]    = "IT.txt";  
char Adminfile[25] = "Admin.txt";  
char Prodfile[30]  = "Production.txt";  
char Salesfile[30] = "Sales.txt";  
  
class emp  
{  
     int empid;  
     char name[30];  
     char address[60];  
     int age;  
     public:  
          char dept[15];  
     void get();  
     char \*getdept()  
     {  
          return dept;  
     }  
};  
void emp::get()  
{  
     cout<<"\n Enter Employee Id     :  ";  
     cin>>empid;  
     cout<<"\n Enter Name            :  ";  
     cin>>name;  
     cout<<"\n Enter Address         :  ";  
     cin>>address;  
     cout<<"\n Enter Department Name:(Admin/Sales/IT/Production)  :  ";  
     cin>>dept;  
     cout<<"\n Enter Age   :  ";  
     cin>>age;  
}  
void insert()  
{  
     emp e;  
       
     ofstream fout; //ofstream is a class, fout is its object. It can be used only to write into the file.  
  
     //file is open in the binary, append and nocreate mode.  
     fout.open("Employee.txt",ios::in | ios::out | ios::binary | ios::app | ios::ate);  
       
     if (fout.fail())  
     {  
          cout<<"\n Unable to Open the File!!!";  
          goto err;  
     }  
     e.get(); // accepting the details from the user.  
     fout.write((char \*)&e,sizeof(e)); //writing into the file with fout object.  
     if(fout.tellp()%sizeof(e)==0)  
     {  
          cout<<"\n Record Inserted !!!"<<endl;  
     }  
     else  
     {  
          cout<<"\n Insertion Failed !!!";  
          goto err;  
     }  
     err:  
          fout.close();  
          
}  
void sort() // This function will insert the record according to department in respective file.  
{  
     emp e;  
     ofstream adm,sal,pro,it; //all files have been created for writing mode.  
     ifstream fin; // fin object belongs to the ifstream class, it is used to read the file contents only.  
     adm.open(Adminfile, ios::out | ios::binary | ios::app);  
     sal.open(Salesfile, ios::out | ios::binary | ios::app);  
     pro.open(Prodfile, ios::out | ios::binary | ios::app);  
     it.open(ITfile, ios::out | ios::binary | ios::app);  
     fin.open(empfile, ios::in | ios::binary);  
     while(fin.read((char \*)&e,sizeof(e))) //reading the file contents till it reaches end of file.  
     {  
          if(strcmp(e.getdept(),"Admin")==0)  
          {  
               adm.write((char \*)&e,sizeof(e));  
               cout<<"\n Record Inserted into ADMIN File!!!";  
          }  
          else if(strcmp(e.getdept(),"Sales")==0)  
          {  
               sal.write((char \*)&e,sizeof(e));  
               cout<<"\n Record Inserted into SALES File!!!";  
          }  
          else if(strcmp(e.getdept(),"IT")==0)  
          {  
               it.write((char \*)&e,sizeof(e));  
               cout<<"\n Record Inserted into IT File!!!";  
          }  
          else if(strcmp(e.getdept(),"Production")==0)  
          {  
               pro.write((char \*)&e,sizeof(e));  
               cout<<"\n Record Inserted into Production File!!!";  
          }  
          else  
               cout<<"\n Insert Correct Record!!!";  
     }  
     fin.close();  
     adm.close();  
     sal.close();  
     it.close();  
     pro.close();  
}  
int main()  
{  
     int n;  
     cout<<"\n Enter No. of Records You Want? : ";  
     cin>>n;  
     for(int i=0; i<n; i++)  
     {  
          insert();  
     }  
     sort();  
     return 0;  
}

**Q9. Write a C++ program to create a file which has information Name, Account number, Balance and perform following operations:  
  
a. Add record  
b. Display content of file  
c. Display name of person having balance > 10,000**

#include<iostream>  
#include<stdio.h>  
#include<string.h>  
#include<cstdlib>  
using namespace std;  
  
struct Person  
{  
     char name[20];  
     int accno;  
     float balance;  
          
};  
int main()  
{  
     struct Person p;  
     FILE \*fp;  
     char c;  
     int ch;  
     while(1)  
     {  
          cout<<"\n\n 1. Add Records in the File";  
          cout<<"\n 2. Display Content of File";  
          cout<<"\n 3. Display Name of Person whose Balance is Greater than 10,000";  
          cout<<"\n 4. Exit";  
          cout<<"\n\n Enter Your Choice : ";  
          cin>>ch;  
          switch(ch)  
          {  
               case 1:  
                    fp=fopen("person.txt","ab");  
                    while (1)  
                    {  
                         cout<<"\n Enter Person Name   :  ";  
                         cin>>p.name;  
                         fflush(stdin);  
                         cout<<"\n Enter Account No.   :  ";  
                         cin>>p.accno;  
                         fflush(stdin);  
                       
                         cout<<"\n Enter Balance       :  ";  
                         cin>>p.balance;  
                         fflush(stdin);  
                        
                         fwrite(&p,sizeof(p),1,fp);  
                         fflush(stdin);  
                         cout<<"\n\n Do You Want to Continue?(Y/N) : ";  
                         cin>>c;  
                         if(c=='n' || c=='N')  
                              break;  
                    }  
                    fclose(fp);  
                    break;  
                      
               case 2:  
                    fp=fopen("person.txt","rb");  
                    while (fread(&p,sizeof(p),1,fp))  
                    {  
                         while(1)  
                         {  
                              cout<<"\n Account No : "<<p.accno;  
                              cout<<"\n Name       : "<<p.name;  
                              cout<<"\n Balance    : "<<p.balance<<endl;  
                              break;  
                         }  
                    }  
                    fclose(fp);  
                    break;  
  
               case 3:  
                    fp=fopen("person.txt","rb");  
                    while(fread(&p,sizeof(p),1,fp))  
                    {  
                         if(p.balance>10000)  
                         {  
  
                              while(1)  
                              {  
                                   cout<<"\n Account No : "<<p.accno;  
                                   cout<<"\n Name       : "<<p.name;  
                                   cout<<"\n Balance    : "<<p.balance<<endl;  
                                   break;  
                              }  
                         }  
                    }  
                    fclose(fp);  
                    break;  
               case 4:  
                    exit(0);  
               default:  
                    cout<<"\n Invalid Choice";  
          }  
     }  
     return 0;  
}

List of C++ Programs on File Management covered here

**The C++ programs covered in this section include:**

1. Count characters & spaces  
2. Append to a file  
3. Copy contents & change case  
4. Merge two files  
5. Count characters, words & lines  
6. Arrange records in descending order  
7. Add & read contents of file  
8. Create file to store employee details  
9. Display content of file