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7. Write a C++ program to read two lists of names and then match the names in the two lists using Consequential Match based on a single loop. Output the names common to both the lists.

Cosequential operations

Operations which involve accessing two or more input files sequentially and in parallel, resulting in

one or more output files produced by the combination of the input data.

Considerations for Cosequential Algorithms

- Initialization - What has to be set up for the main loop to work correctly?

- Getting the next item on each list - This should be simple and easy, from the main algorithm.

- Synchronization - Progress of access in the lists should be coordinated.

- Handling End-Of-File conditions - For a match, processing can stop when the end of any list is reached.

- Recognizing Errors - Items out of sequence can "break" the synchronization.

Matching Names in Two Lists

Match

The process of forming a list containing all items common to two or more lists.

Cosequential Match Algorithm

- Initialize (open the input and output files.)

- Get the first item from each list.

- While there is more to do:

  Compare the current items from each list.

  If the items are equal,

  Process the item.

  Get the next item from each list.

  Set *more* to true iff none of this lists is at end of file.

  If the item from list *A* is less than the item from list *B*,

  Get the next item from list *A*.

Set *more* to true iff list *A* is not at end-of-file.

If the item from list *A* is more than the item from list *B*,

Get the next item from list *B*.

Set *more* to true iff list *B* is not at end-of-file.

- Finalize (close the files.)

File_structure7.cpp

```cpp
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
#include<conio.h>
#include<fstream.h>
#include<iostream.h>

void writeLists()
{
     fstream out1,out2;
     int i,m,n;
     char name[20];
     out1.open("file1.txt",ios::out);
     out2.open("file2.txt",ios::out);
     if( (!out1) || (!out2) )
     {
          cout<<"Unable to open one of the list files\n";
          getch();
          exit(0);
     }
     cout<<"Enter the number of names you want to enter in file1
     "; cin>>m;
     cout<<"\nEnter the names in assending order \n";
     for(i=0;i<m;i++)
     {
          cin>>name;
          out1<<name;
          out1<<'\n';
     }

     cout<<"Enter the number of names you want to enter in file2
     "; cin>>n;
     cout<<"\nEnter the names in assending order \n";
     for(i=0;i<n;i++)
     {
          cin>>name;
          out2<<name;
          out2<<'\n';
     }
     out1.close();
     out2.close();
}
void main()
{
     char list1[100][20],list2[100][20];
     int i,j,m,n;
     clrscr();
     fstream out1,out2,out3;
```

```
      writeLists();
      out1.open("file1.txt",ios::in);
      out2.open("file2.txt",ios::in);
      out3.open("file3.txt",ios::out);
      if((!out3)||(!out1)||(!out2))
      {
            cout<<"Unable to open one of the file";
            getch();
            exit(0);
      }
      clrscr();
      m=0;
      n=0;
      while(!out1.eof())
      {
            out1.getline(list1[m],20,'\n');
            cout<<list1[m]<<"\t";
            m++;
      }
      cout<<endl;
      while(!out2.eof())
      {
            out2.getline(list2[n],20,'\n');
            cout<<list2[n]<<"\t";
            n++;
      }
      m--;
      n--;
      i=0;
      j=0;
      cout<<"\nElements common to both files are\n";
      while(i<m&&j<n)
      {
            if(strcmp(list1[i],list2[j])==0)
            {
                  out3<<list1[i];
                  cout<<list1[i]<<"\n";
                  out3<<'\n';
                  i++;
                  j++;
            }
            else if(strcmp(list1[i],list2[j])<0)
                  i++;
            else
            j++;
      }
      getch();
}
```

Output :

```
Enter no. of names you want to enter in file1 :
3 Enter the names in ascending order cse

ise
tc

Enter no. of names you want to enter in file1 :
2 Enter the names in ascending order ec

ise

cseisetcecise

Elements common to both files are:
 Ise
```