Program 2

Write a program to read and write and student objects with fixed-length records and the fields delimited by "|". Implement pack(), unpack(),modify() and search() methods

```cpp
// Program to read and write and student objects with fixed-length records and the fields delimited by "|"
#include<stdio.h>
#include<conio.h>
#include<process.h>
#include<string.h>
#include<fstream>
#include<iostream>
using namespace std;

class student
{
        public: char name[20], usn[10], age[5], sem[5],branch[5];
};
student s[100], t;
char buffer[45], temp[20];
int count=0, i;
fstream fp;
void pack(student p)
{
        fp.open("hello.txt",ios::app);
        strcpy(buffer,p.name);
        strcat(buffer,"|");
        strcat(buffer,p.usn);
        strcat(buffer,"|");
        strcat(buffer,p.age);
```

```cpp
		strcat(buffer,"|");

		strcat(buffer,p.sem);

		strcat(buffer,"|");

		strcat(buffer,p.branch);

		int x=strlen(buffer);

		for(int j=0;j<45-x;j++)

		strcat(buffer,"!");

		fp<<buffer<<endl;

		fp.close();
}
void write()
{
		cout<<"Enter the name\n";

		cin>>t.name;

		cout<<"Enter the usn\n";

		cin>>t.usn;

		cout<<"Enter the age\n";

		cin>>t.age;

		cout<<"Enter the sem\n";

		cin>>t.sem;

		cout<<"Enter the branch\n";

		cin>>t.branch;

		pack(t);
}
void unpack()
{
		fp.open("hello.txt",ios::in);

		for(i=0;i<count;i++)

		{
```

```cpp
        fp.getline(buffer,100);
sscanf(buffer,"%[^|||%[^|||%[^|||%[^|||%[^!]!",s[i].name,s[i].usn,s[i].age,s[i].sem,s[i].branch);
        }
        fp.close();
}
void display()
{
        if(count==0)
        {
                cout<<"\nNo records\n";
                return;
        }
        cout<<"\n name\t usn\t age\t sem\t branch\n";
        for(i=0;i<count;i++)
        cout<<s[i].name<<"\t"<<s[i].usn<<"\t"<<s[i].age<<"\t"<<s[i].sem<<"\t"<<s[i].branch<<endl;
}
void search()
{
        cout<<"Enter the usn\n";
        cin>>temp;
        for(i=0;i<count;i++)
        if(!strcmp(s[i].usn,temp))
        {
cout<<"Record found\n"<<s[i].name<<"\t"<<s[i].usn<<"\t" <<s[i].age<<"\t"
<<s[i].sem<<"\t"<<s[i].branch<<endl;
break;
        }
        if(i==count)
        cout<<"Record not found";
}
```

```cpp
void modify()
{
        if(i==count)
        return;
        cout<<"Enter new values\n Enter name :";
        cin>>s[i].name;
        cout<<"Enter usn :";
        cin>>s[i].usn;
        cout<<"Enter age :";
        cin>>s[i].age;
        cout<<"Enter sem :";
        cin>>s[i].sem;
        cout<<"Enter branch :";
        cin>>s[i].branch;
        fp.close();
        remove("hello.txt");
        fp.open("hello.txt",ios::out);
        fp.close();
        for(int j=0;j<count;j++)
        pack(s[j]);
}
int main()
{
        int c;
        fp.open("hello.txt",ios::out);
        fp.close();
        while(1)
        {
```

```cpp
            cout<<"\n1.Write\n 2. Display\n 3. Search\n 4.Modify\n 5.Exit\n";
cout<< "Enter your choice\n";

            cin>>c;
            switch(c)
            {
                    case 1: count++; write();break;
                    case 2: unpack(); display();break;
                    case 3: unpack(); search();break;
                    case 4: unpack(); search();modify();break;
                    default:exit(0);
            }
        }
}
```