3. **Write a C++ program to read and write and student objects with variable-length records using any suitable record structure. Implement pack(),unpack(),modify() and search() methods**

## Program Screenshots:

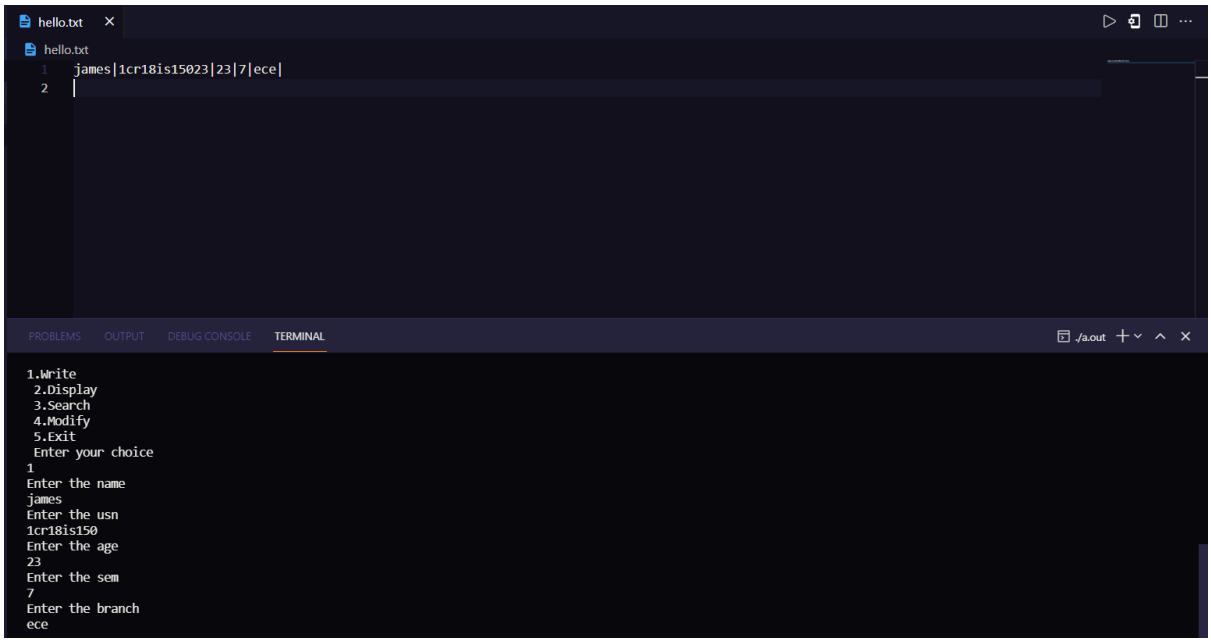
```
#include<iostream>
#include<string.h>
#include<fstream>
#include<stdlib.h>
using namespace std;
class student
{
    public:char name[20],usn[10],age[5],sem[5],branch[5];
};
student s[100],t;
char buffer[45],temp[20];
int count=0,i;
fstream fp;
void pack(student p)
{
    fp.open("hello.txt",ios::out|ios::app);
    strcpy(buffer,p.name);
    strcat(buffer,"|");
    strcat(buffer,p.usn);
    strcat(buffer,"|");
    strcat(buffer,p.age);
    strcat(buffer,"|");
    strcat(buffer,p.sem);
    strcat(buffer,"|");
    strcat(buffer,p.branch);
    strcat(buffer,"|");
      //    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++)
    {
        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";
}
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)
    {
        cout<<"\n1.Write\n 2.Display\n 3.Search\n 4.Modify\n 5.Exit\n Enter yo
ur 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);
        }
    }
}
```

# Output:




```
1.Write
 2.Display
 3.Search
 4.Modify
 5.Exit
 Enter your choice
3
Enter the usn
1cr18is140
Record not found
```