File pointers:

ifstream-->get
ofstream-->put
fstream--> inherits both get and put from iostream

get pointer: it points to the element to be read in the next input operation
put pointer: it points to the location where the element has to be written

---

write function: is used to write object or record (bytes of information)to the file. A record may be an array, class, object.

syntax:
fstream fout;
fout.write((char*)&obj, sizeof(obj));

&obj: initial byte of an object stored in memory.
sizeof(obj): size of the object represents the total number of bytes to be written from initial byte.

---

read function: is used to read object (sequence of bytes) from the file.

syntax:
fstream fin;
fin.read((char*)&obj, sizeof(obj));

&obj: initial byte of an object stored in the file.
sizeof(obj): size of the object represents the total number of bytes to be read from initial byte.

```
#include<iostream>
#include<fstream>
#include<stdio.h>

using namespace std;

class Student
{
```

```
int roll;
char name[50];
float marks;

void getData()
{
cout<<"Enter roll: ";
cin>>roll;

cout<<"\n Enter name: ";
cin>>name;

cout<<"\n Enter marks: ";
cin>>marks;

}

public:
void AddRecord()
{
fstream f;
Student st;

f.open("Student.dat", ios::app);
st.getData();

f.write((char*)&st, sizeof(st));
f.close();
}
};

int main()
{
        Student s;
        char ch='n';

        do
        {
                s.AddRecord();
                cout<<"Do you want to continue y/n? ";
                fflush(stdin);
                ch=getchar();
```

```
        } while(ch=='y'|| ch=='Y');

        cout<<"data written sucessfully: ";

}
```

```
#include<iostream>
#include<fstream>
#include<stdio.h>

using namespace std;

class Student
{

int roll;
char name[50];
float marks;

void putData()
{
cout<<"\n"<<roll<<"\t"<<name<<"\t"<<marks<<"\n";

}

public:
void display()
{
fstream f;
Student st;

f.open("D:\\JU\\2022 1st sem\\IT 2nd year\\Programs\\Student.DAT", ios::in);

cout<<"\n Retrieved data: \n";

while(f.read((char*)&st,sizeof(st)))
{
        cout<<"hi";
        st.putData();

}
```

```
f.close();

}
};

int main()
{
        Student s;
        s.display();

}
```

How to write the data into a file and then read them:

```
#include<iostream>
#include<fstream>
#include<stdio.h>

using namespace std;

class Student
{

int roll;
char name[50];
float marks;

void getData()
{
cout<<"Enter roll: ";
cin>>roll;

cout<<"\n Enter name: ";
cin>>name;

cout<<"\n Enter marks: ";
cin>>marks;

}
```

```
void putData()
{
cout<<"\n"<<roll<<"\t"<<name<<"\t"<<marks<<"\n";

}

public:
void display()
{
fstream f;
Student st;

f.open("Student.DAT", ios::in);

cout<<"\n Retrieved data: \n";

while(f.read((char*)&st,sizeof(st)))
{
        cout<<"hi";
        st.putData();

}

f.close();
}

void AddRecord()
{
fstream f;
Student st;

f.open("Student.dat", ios::app);
st.getData();

f.write((char*)&st, sizeof(st));
f.close();
}


};

int main()
{
```

```
	Student s;
	char ch='n';

	do
	{
		s.AddRecord();
		cout<<"Do you want to continue y/n? ";
		fflush(stdin);
		ch=getchar();

	} while(ch=='y'|| ch=='Y');

	cout<<"data written sucessfully: ";

	s.display();
}
```
