TRIBHUVAN UNIVERSITY

INSTITUTE OF ENGINEERING

PULCHOWK CAMPUS

DEPARTMENT OF ELECTRONICS AND COMPUTER ENGINEERING

LAB REPORT ON OBJECT ORIENTED PROGRAMMING

Bachelor's Degree in Electronics, Communication and Information Engineering

FIRST YEAR SECOND PART(I-II)

Name: Anju Chhetri

Roll Number: 076BEI005

LAB 8

TASK 1:

```
#include <iostream>
#include <fstream>
using namespace std;

class STUDENT{
    private:
        char name[30],address[30];
        int roll,marks;
    public:
            void get_data(){
                cout<<"\nNAME : ";
                cin>>name;
                cout<<"ROLL NUMBER : ";
                cin>>roll;
                cout<<"MARKS : ";
                cin>>marks;
                cout<<"ADDRESS : ";
                cin>>address;

            }

        void show_data(){

            cout<<"\nNAME: "<<name;
            cout<<"\nROLL NUMBER :"<<roll;
            cout<<"\nMARKS: "<<marks;
            cout<<"\nADDRESS :"<<address;
        }
        int search(int a){
            if(roll==a)
                return 1;
            else
                return 0;
        }
```

```
void add_account(){
    fstream fi;
    STUDENT s;
    cout<<"ADD THE STUDENT ACCOUNT : ";
    fi.open("student.txt",ios::app);
    s.get_data();
    fi.write((char *)&s,sizeof(s));
    fi.close();
}
void search_record(){
    int roll_no;
    STUDENT s;
    fstream fi;
    cout<<"ENTER THE ROLL NUMBER : ";
    cin>>roll_no;
    fi.open("student.txt",ios::in);
    while(fi.read((char *)&s,sizeof(s))){
        if(s.search(roll_no)){
        s.show_data();
        break;
        }}
fi.close();
}
void modify_record(){
    int roll_no;
    int count=0;
    STUDENT s;
    fstream fi;
    cout<<"ENTER THE ROLL NUMBER : ";
    cin>>roll_no;
    fi.open("student.txt",ios::in|ios::out|ios::ate);
    fi.seekg(0,ios::beg);
    while(fi.read((char *)&s,sizeof(s))){
        count++;
        if(s.search(roll_no)){
        s.get_data();
        int pos=(count-1)*sizeof(s);
        fi.seekg(pos,ios::beg);
        fi.write((char*)&s,sizeof(s));
        break;
        }}
fi.close();
}
```

```
void delete_record(){
            int roll_no;
            int count=0;
            STUDENT s;
            fstream fi;
            cout<<"ENTER THE ROLL NUMBER : ";
            cin>>roll_no;
            fi.open("student.txt",ios::in);
            fi.seekg(0,ios::beg);
            while(fi.read((char *)&s,sizeof(s))){
            count++;
                }
                fi.close();
                fi.open("student.txt",ios::out);
            for(int i=0;i<count;i++){

                if(!s.search(roll_no)){
                    fi.write((char*)&s,sizeof(s));
                }

                }
        fi.close();
}

void count_record(){
            int roll_no;
            int count=0;
            STUDENT s;
            fstream fi;
            fi.open("student.txt",ios::in);
            fi.seekg(0,ios::beg);
            while(fi.read((char *)&s,sizeof(s))){
                count++;
                }
        fi.close();
        int j=sizeof(s);
        cout<<"\nThe total number of records are: "<<count;
        cout<<"\nTotal size of file is : "<<count*j;
}


};
int main(){
    int choose;
    fstream fi;
```

```
    STUDENT st;
    cout<<"\n1. Write records to the file."<<"\n2. Read current records stored on
 the file."<<"\n3. Update a record on the file."<<"\n4. Search a record on the fi
le."<<"\n5. Modify a record on the file."<<"\n6. Delete a record on the file."<<"
\n7. Compute the no. of records and total file size. ";
    cout<<"\nChoose : ";
    cin>>choose;
    int n;
    switch(choose){
case 1:
    system("cls");
    cout<<"\n Enter the number of students : ";
    cin>>n;
    fi.open("student.txt",ios::out);

    for(int i=0;i<n;i++){
      st.get_data();
      fi.write((char *)&st,sizeof(st));
}
      fi.close();
    break;

case 2:
    system("cls");
    fi.open("student.txt",ios::in);
    if(!fi){
            cout<<"ERROR! FILE Student.txt NOT FOUND.";
         break;
         }

    while(fi.read((char *)&st,sizeof(st))){
    st.show_data();
}
    fi.close();
    break;

case 3:
    system("cls");
    st.add_account();
    break;

case 4:
system("cls");
st.search_record();
break;
```

```
case 5:
    system("cls");
    st.modify_record();
    break;
case 6:
system("cls");
st.delete_record();
break;

case 7:
    system("cls");
    st.count_record();
    break;
     }
}
```