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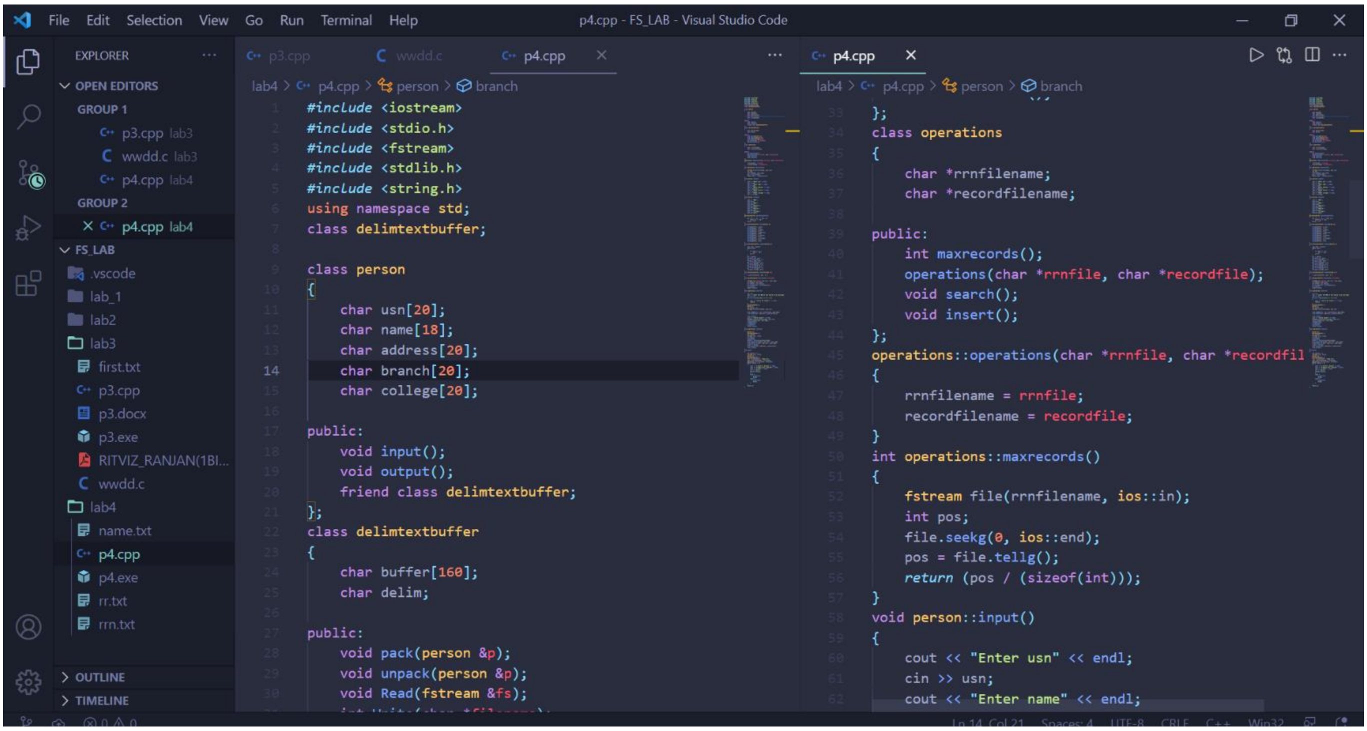
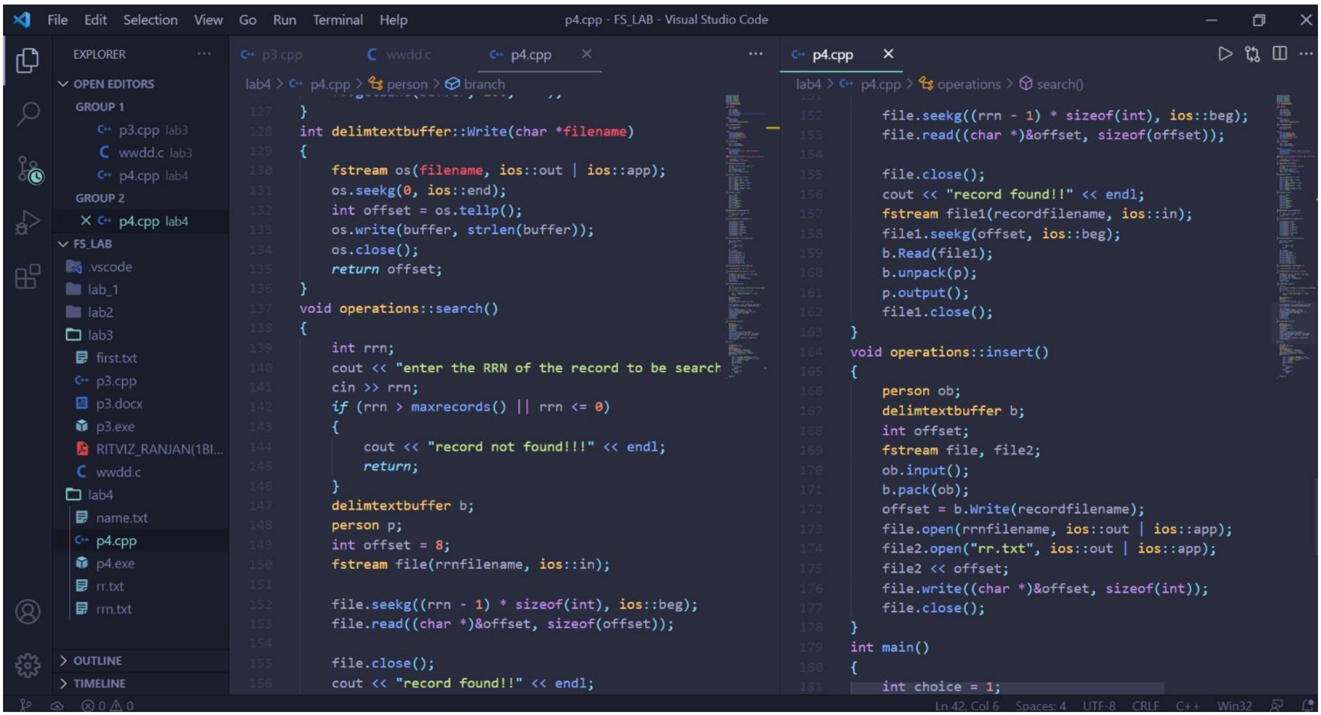
FS LAB-4 18/05/21



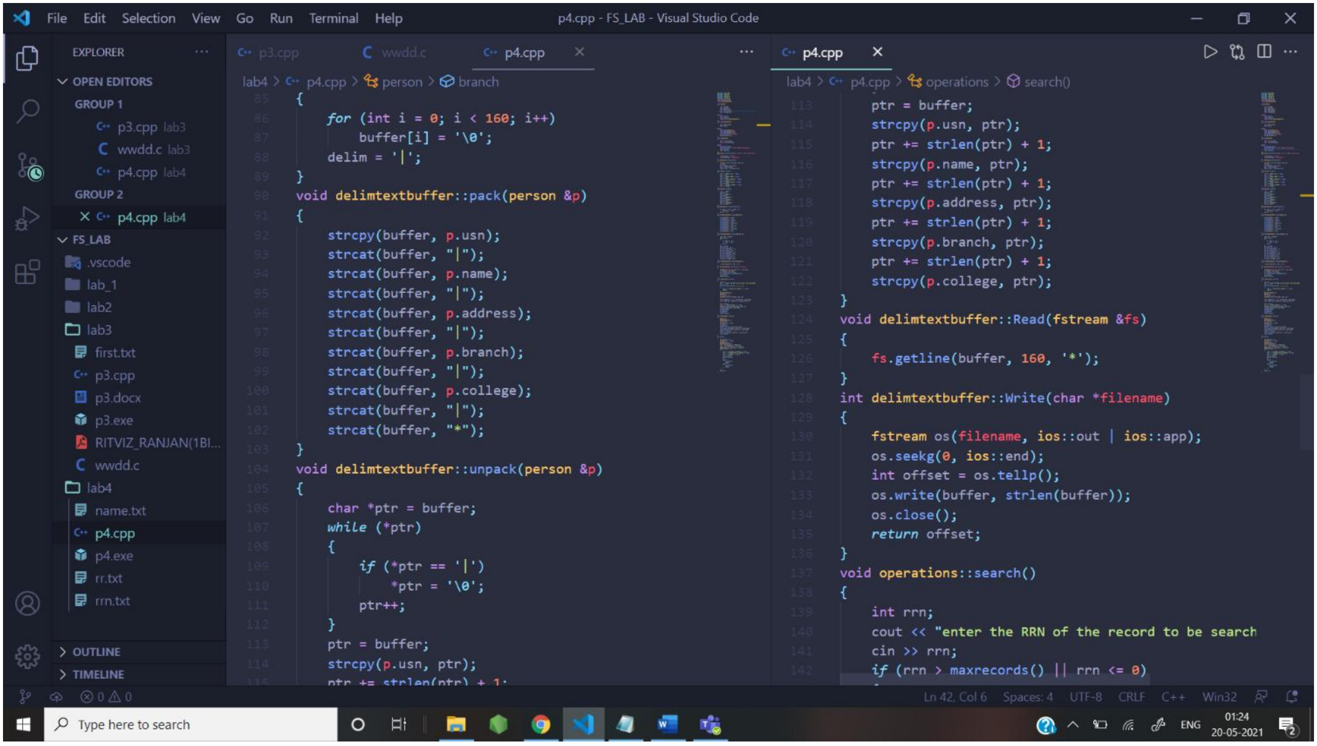
```
#include <iostream>
#include <stdio.h>
#include <fstream>
#include <stdlib.h>
#include <string.h>
using namespace std;
class delimtextbuffer;

class person
{
    char usn[20];
    char name[18];
    char address[20];
    char branch[20];
    char college[20];

public:
    void input();
    void output();
    friend class delimtextbuffer;
};
class delimtextbuffer
{
    char buffer[160];
    char delim;

public:
    void pack(person &p);
    void unpack(person &p);
    void Read(fstream &fs);
```

```
};
class operations
{
    char *rrnfilename;
    char *recordfilename;

public:
    int maxrecords();
    operations(char *rrnfile, char *recordfile);
    void search();
    void insert();
};
operations::operations(char *rrnfile, char *recordfil
{
    rrnfilename = rrnfile;
    recordfilename = recordfile;
}
int operations::maxrecords()
{
    fstream file(rrnfilename, ios::in);
    int pos;
    file.seekg(0, ios::end);
    pos = file.tellg();
    return (pos / (sizeof(int)));
}
void person::input()
{
    cout << "Enter usn" << endl;
    cin >> usn;
    cout << "Enter name" << endl;
```



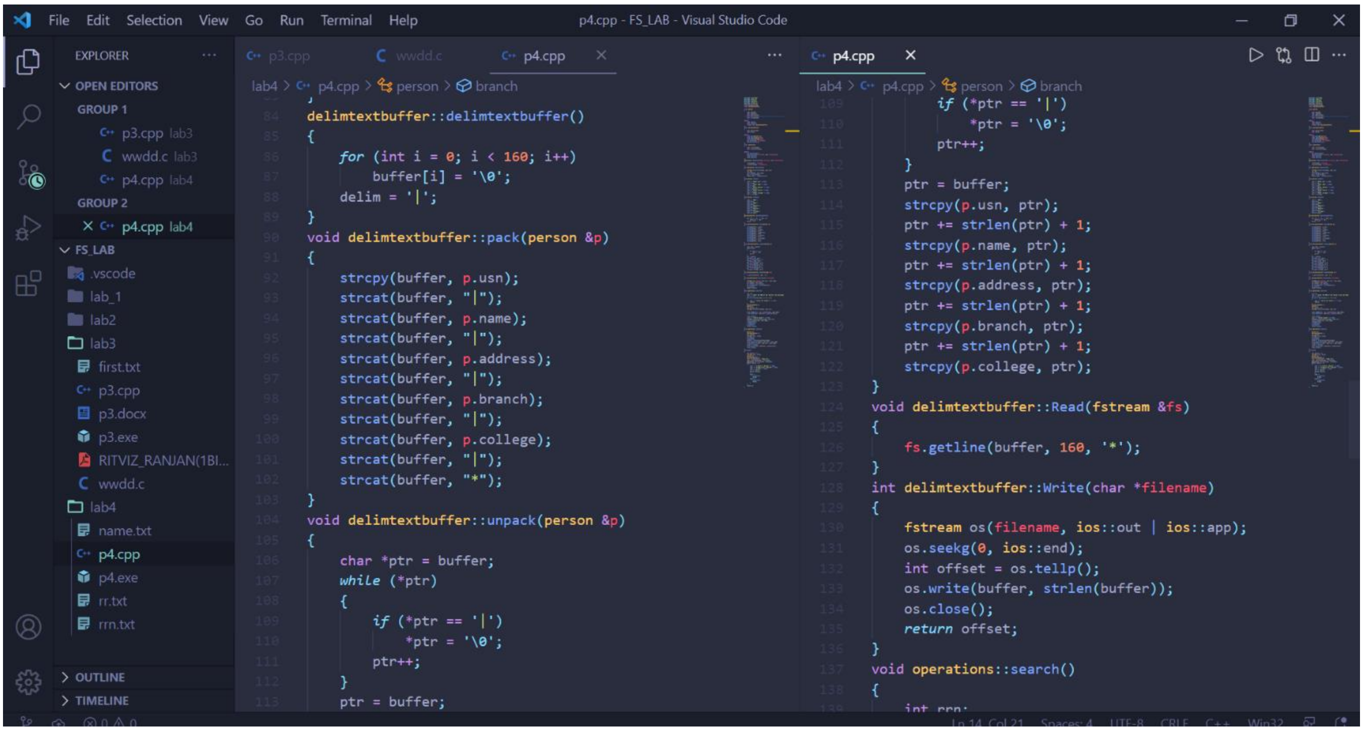
```cpp
}
int delimtextbuffer::Write(char *filename)
{
    fstream os(filename, ios::out | ios::app);
    os.seekg(0, ios::end);
    int offset = os.tellp();
    os.write(buffer, strlen(buffer));
    os.close();
    return offset;
}
void operations::search()
{
    int rrn;
    cout << "enter the RRN of the record to be search
    cin >> rrn;
    if (rrn > maxrecords() || rrn <= 0)
    {
        cout << "record not found!!!" << endl;
        return;
    }
    delimtextbuffer b;
    person p;
    int offset = 8;
    fstream file(rrnfilename, ios::in);

    file.seekg((rrn - 1) * sizeof(int), ios::beg);
    file.read((char *)&offset, sizeof(offset));

    file.close();
    cout << "record found!!" << endl;
```

```cpp
    file.seekg((rrn - 1) * sizeof(int), ios::beg);
    file.read((char *)&offset, sizeof(offset));

    file.close();
    cout << "record found!!" << endl;
    fstream file1(recordfilename, ios::in);
    file1.seekg(offset, ios::beg);
    b.Read(file1);
    b.unpack(p);
    p.output();
    file1.close();
}
void operations::insert()
{
    person ob;
    delimtextbuffer b;
    int offset;
    fstream file, file2;
    ob.input();
    b.pack(ob);
    offset = b.Write(recordfilename);
    file.open(rrnfilename, ios::out | ios::app);
    file2.open("rr.txt", ios::out | ios::app);
    file2 << offset;
    file.write((char *)&offset, sizeof(int));
    file.close();
}
int main()
{
    int choice = 1;
```



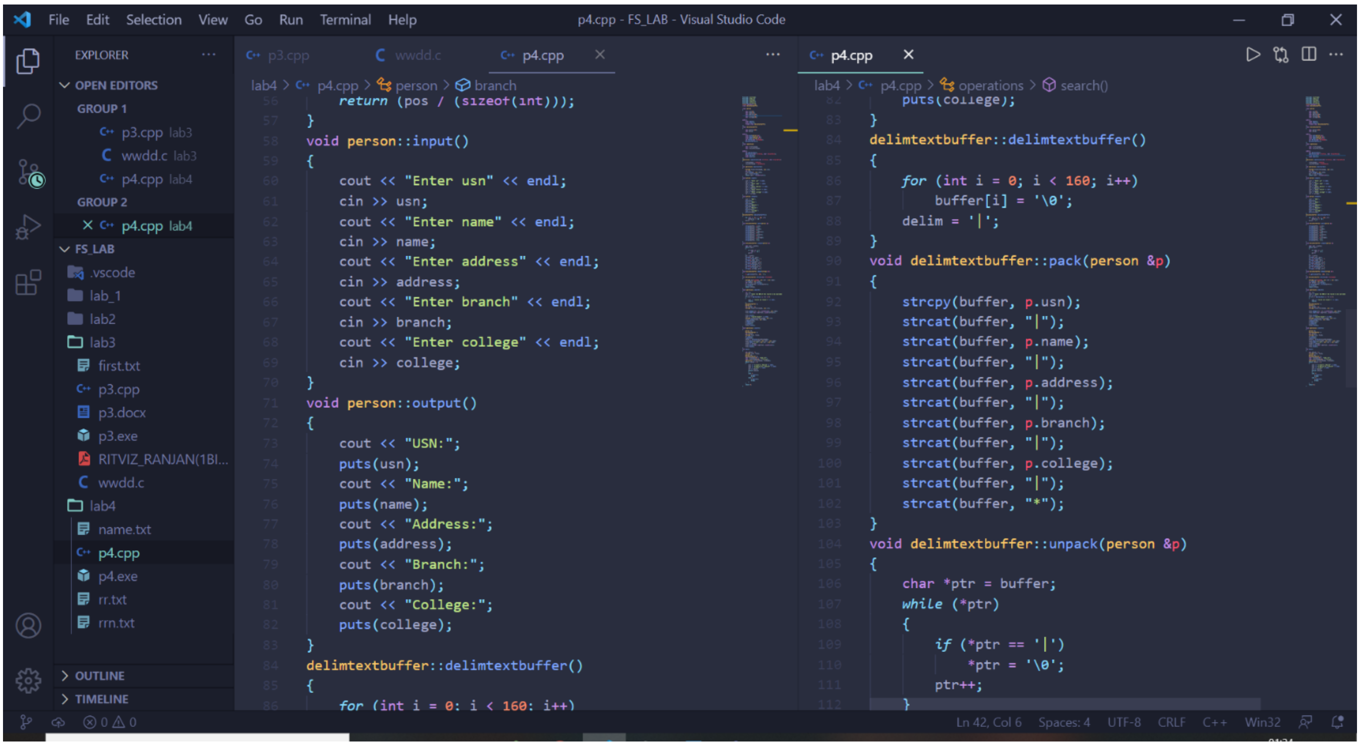
```cpp
{
    for (int i = 0; i < 160; i++)
        buffer[i] = '\0';
    delim = '|';
}
void delimtextbuffer::pack(person &p)
{
    strcpy(buffer, p.usn);
    strcat(buffer, "|");
    strcat(buffer, p.name);
    strcat(buffer, "|");
    strcat(buffer, p.address);
    strcat(buffer, "|");
    strcat(buffer, p.branch);
    strcat(buffer, "|");
    strcat(buffer, p.college);
    strcat(buffer, "|");
    strcat(buffer, "*");
}
void delimtextbuffer::unpack(person &p)
{
    char *ptr = buffer;
    while (*ptr)
    {
        if (*ptr == '|')
            *ptr = '\0';
        ptr++;
    }
    ptr = buffer;
    strcpy(p.usn, ptr);
```

```cpp
    ptr = buffer;
    strcpy(p.usn, ptr);
    ptr += strlen(ptr) + 1;
    strcpy(p.name, ptr);
    ptr += strlen(ptr) + 1;
    strcpy(p.address, ptr);
    ptr += strlen(ptr) + 1;
    strcpy(p.branch, ptr);
    ptr += strlen(ptr) + 1;
    strcpy(p.college, ptr);
}
void delimtextbuffer::Read(fstream &fs)
{
    fs.getline(buffer, 160, '*');
}
int delimtextbuffer::Write(char *filename)
{
    fstream os(filename, ios::out | ios::app);
    os.seekg(0, ios::end);
    int offset = os.tellp();
    os.write(buffer, strlen(buffer));
    os.close();
    return offset;
}
void operations::search()
{
    int rrn;
    cout << "enter the RRN of the record to be search
    cin >> rrn;
    if (rrn > maxrecords() || rrn <= 0)
```



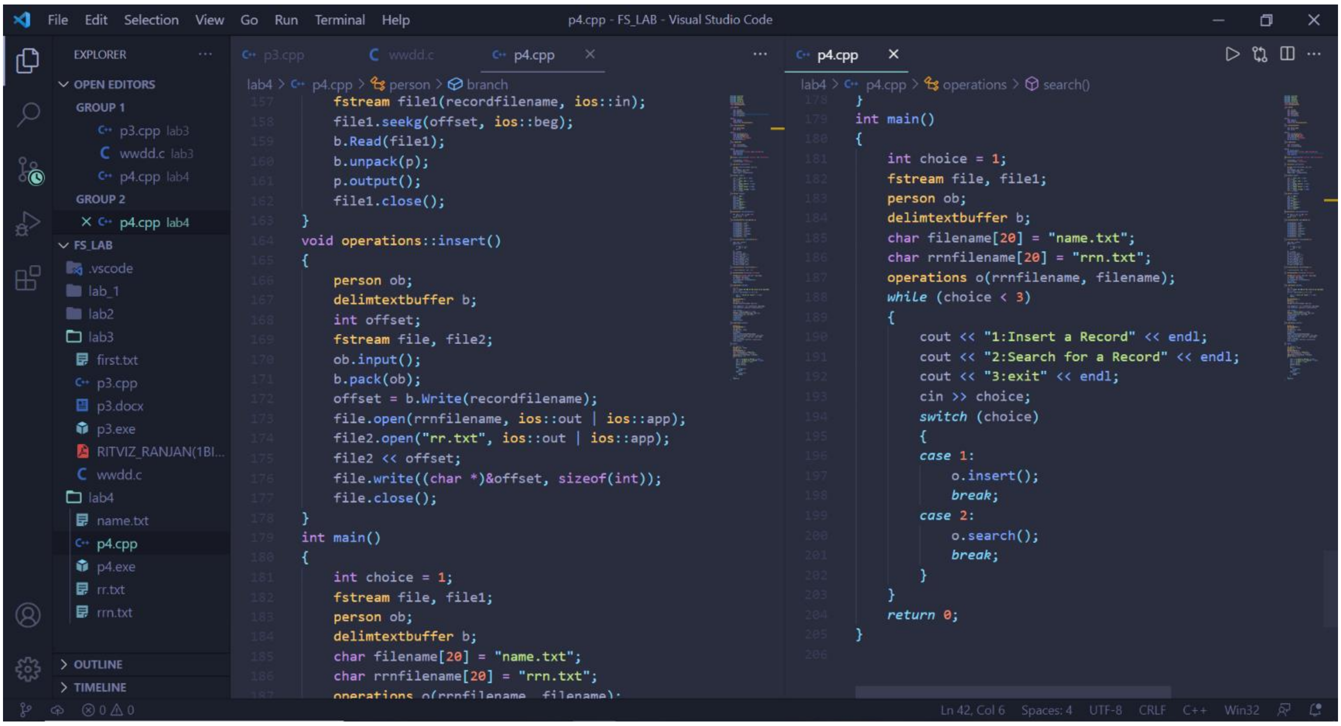
```cpp
}
delimtextbuffer::delimtextbuffer()
{
    for (int i = 0; i < 160; i++)
        buffer[i] = '\0';
    delim = '|';
}
void delimtextbuffer::pack(person &p)
{
    strcpy(buffer, p.usn);
    strcat(buffer, "|");
    strcat(buffer, p.name);
    strcat(buffer, "|");
    strcat(buffer, p.address);
    strcat(buffer, "|");
    strcat(buffer, p.branch);
    strcat(buffer, "|");
    strcat(buffer, p.college);
    strcat(buffer, "|");
    strcat(buffer, "*");
}
void delimtextbuffer::unpack(person &p)
{
    char *ptr = buffer;
    while (*ptr)
    {
        if (*ptr == '|')
            *ptr = '\0';
        ptr++;
    }
    ptr = buffer;
```

```cpp
        if (*ptr == '|')
            *ptr = '\0';
        ptr++;
    }
    ptr = buffer;
    strcpy(p.usn, ptr);
    ptr += strlen(ptr) + 1;
    strcpy(p.name, ptr);
    ptr += strlen(ptr) + 1;
    strcpy(p.address, ptr);
    ptr += strlen(ptr) + 1;
    strcpy(p.branch, ptr);
    ptr += strlen(ptr) + 1;
    strcpy(p.college, ptr);
}
void delimtextbuffer::Read(fstream &fs)
{
    fs.getline(buffer, 160, '*');
}
int delimtextbuffer::Write(char *filename)
{
    fstream os(filename, ios::out | ios::app);
    os.seekg(0, ios::end);
    int offset = os.tellp();
    os.write(buffer, strlen(buffer));
    os.close();
    return offset;
}
void operations::search()
{
    int rrn;
```



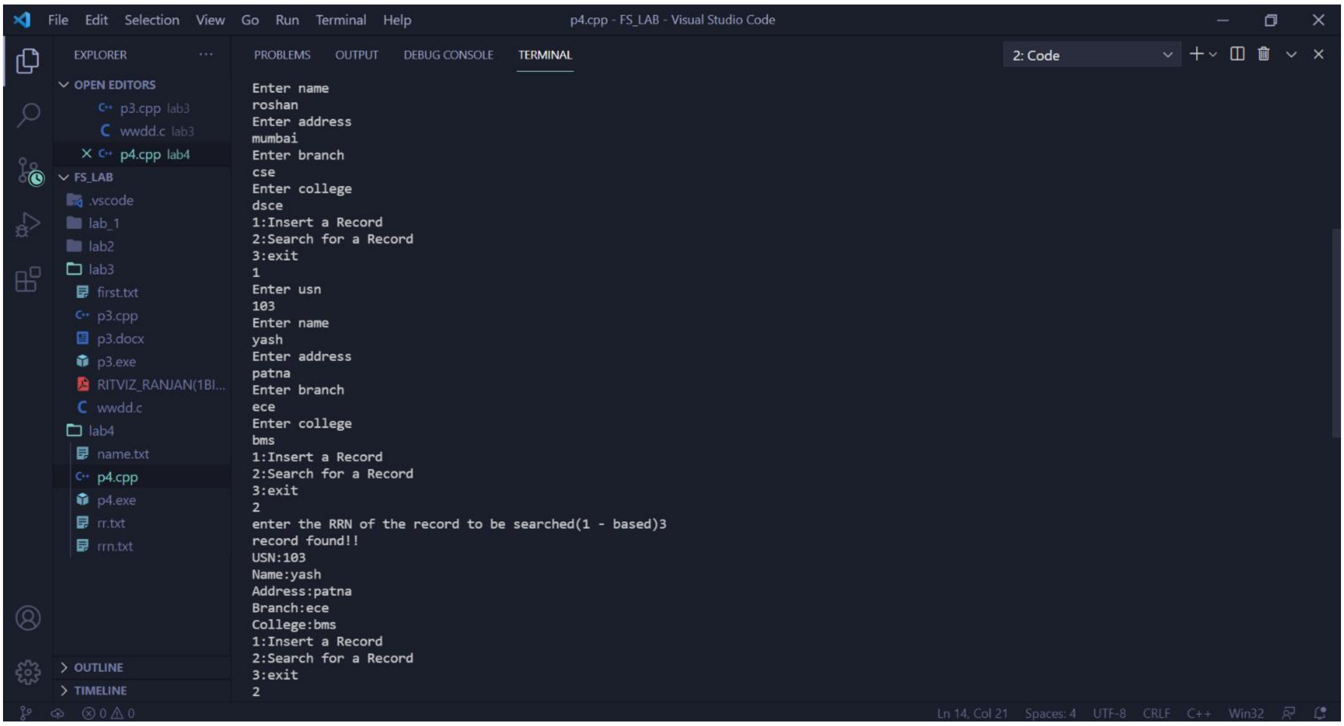
```cpp
    return (pos / (sizeof(int)));
}
void person::input()
{
    cout << "Enter usn" << endl;
    cin >> usn;
    cout << "Enter name" << endl;
    cin >> name;
    cout << "Enter address" << endl;
    cin >> address;
    cout << "Enter branch" << endl;
    cin >> branch;
    cout << "Enter college" << endl;
    cin >> college;
}
void person::output()
{
    cout << "USN:";
    puts(usn);
    cout << "Name:";
    puts(name);
    cout << "Address:";
    puts(address);
    cout << "Branch:";
    puts(branch);
    cout << "College:";
    puts(college);
}
delimtextbuffer::delimtextbuffer()
{
    for (int i = 0; i < 160; i++)
```

```cpp
    puts(college);
}
delimtextbuffer::delimtextbuffer()
{
    for (int i = 0; i < 160; i++)
        buffer[i] = '\0';
    delim = '|';
}
void delimtextbuffer::pack(person &p)
{
    strcpy(buffer, p.usn);
    strcat(buffer, "|");
    strcat(buffer, p.name);
    strcat(buffer, "|");
    strcat(buffer, p.address);
    strcat(buffer, "|");
    strcat(buffer, p.branch);
    strcat(buffer, "|");
    strcat(buffer, p.college);
    strcat(buffer, "|");
    strcat(buffer, "*");
}
void delimtextbuffer::unpack(person &p)
{
    char *ptr = buffer;
    while (*ptr)
    {
        if (*ptr == '|')
            *ptr = '\0';
        ptr++;
    }
```

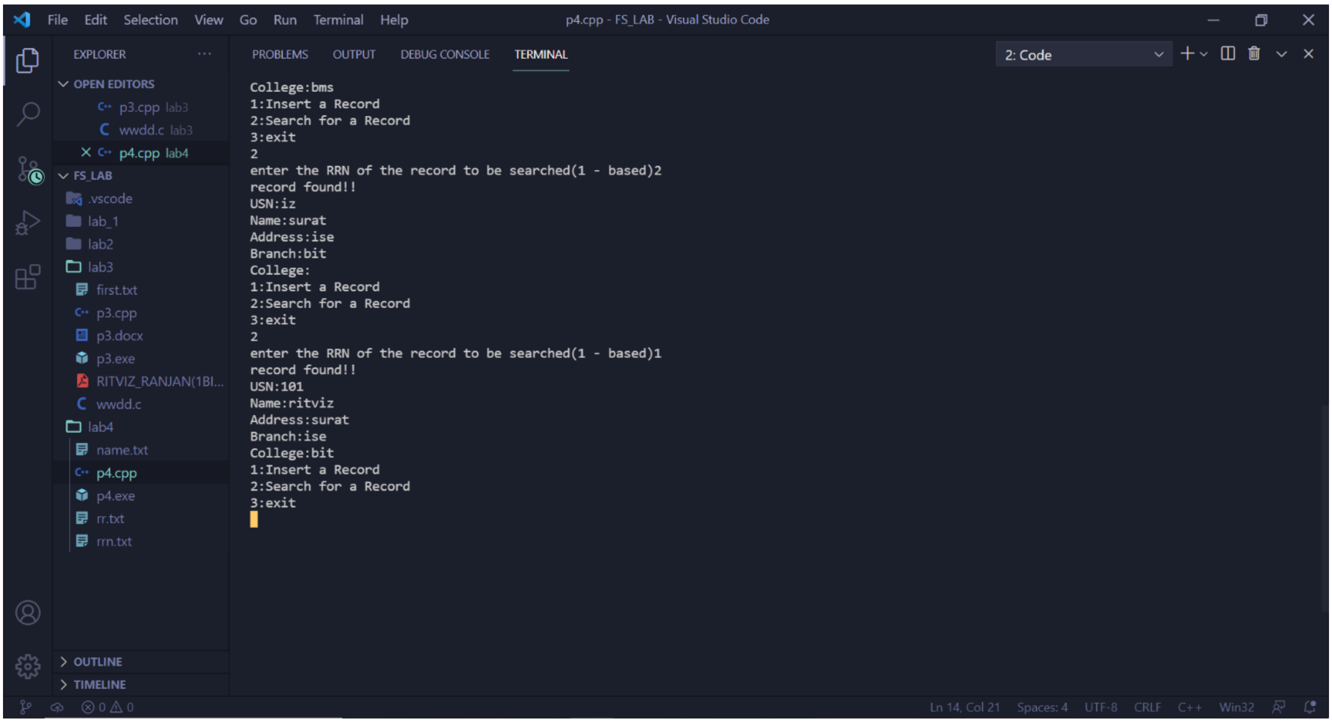


```
        fstream file1(recordfilename, ios::in);
        file1.seekg(offset, ios::beg);
        b.Read(file1);
        b.unpack(p);
        p.output();
        file1.close();
    }
    void operations::insert()
    {
        person ob;
        delimtextbuffer b;
        int offset;
        fstream file, file2;
        ob.input();
        b.pack(ob);
        offset = b.Write(recordfilename);
        file.open(rrnfilename, ios::out | ios::app);
        file2.open("rr.txt", ios::out | ios::app);
        file2 << offset;
        file.write((char *)&offset, sizeof(int));
        file.close();
    }
    int main()
    {
        int choice = 1;
        fstream file, file1;
        person ob;
        delimtextbuffer b;
        char filename[20] = "name.txt";
        char rrnfilename[20] = "rrn.txt";
        operations o(rrnfilename, filename);
```

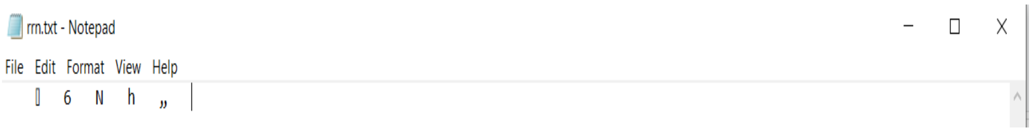
```
    }
    int main()
    {
        int choice = 1;
        fstream file, file1;
        person ob;
        delimtextbuffer b;
        char filename[20] = "name.txt";
        char rrnfilename[20] = "rrn.txt";
        operations o(rrnfilename, filename);
        while (choice < 3)
        {
            cout << "1:Insert a Record" << endl;
            cout << "2:Search for a Record" << endl;
            cout << "3:exit" << endl;
            cin >> choice;
            switch (choice)
            {
            case 1:
                o.insert();
                break;
            case 2:
                o.search();
                break;
            }
        }
        return 0;
    }
```



```
Enter name
roshan
Enter address
mumbai
Enter branch
cse
Enter college
dsce
1:Insert a Record
2:Search for a Record
3:exit
1
Enter usn
103
Enter name
yash
Enter address
patna
Enter branch
ece
Enter college
bms
1:Insert a Record
2:Search for a Record
3:exit
2
enter the RRN of the record to be searched(1 - based)3
record found!!
USN:103
Name:yash
Address:patna
Branch:ece
College:bms
1:Insert a Record
2:Search for a Record
3:exit
2
```



```
College:bms
1:Insert a Record
2:Search for a Record
3:exit
2
enter the RRN of the record to be searched(1 - based)2
record found!!
USN:iz
Name:surat
Address:ise
Branch:bit
College:
1:Insert a Record
2:Search for a Record
3:exit
2
enter the RRN of the record to be searched(1 - based)1
record found!!
USN:101
Name:ritviz
Address:surat
Branch:ise
College:bit
1:Insert a Record
2:Search for a Record
3:exit
```



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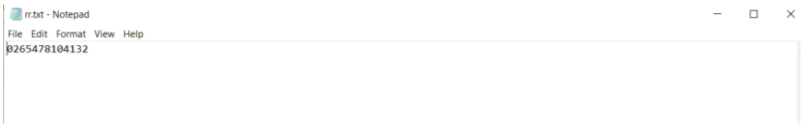
```



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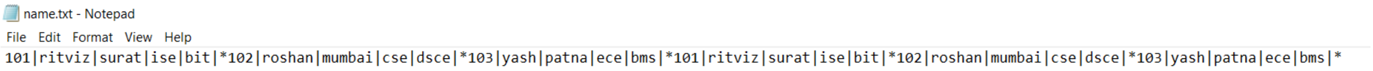

```
101|ritviz|surat|ise|bit|*102|roshan|mumbai|cse|dsce|*103|yash|patna|ece|bms|*101|ritviz|surat|ise|bit|*102|roshan|mumbai|cse|dsce|*103|yash|patna|ece|bms|*
```