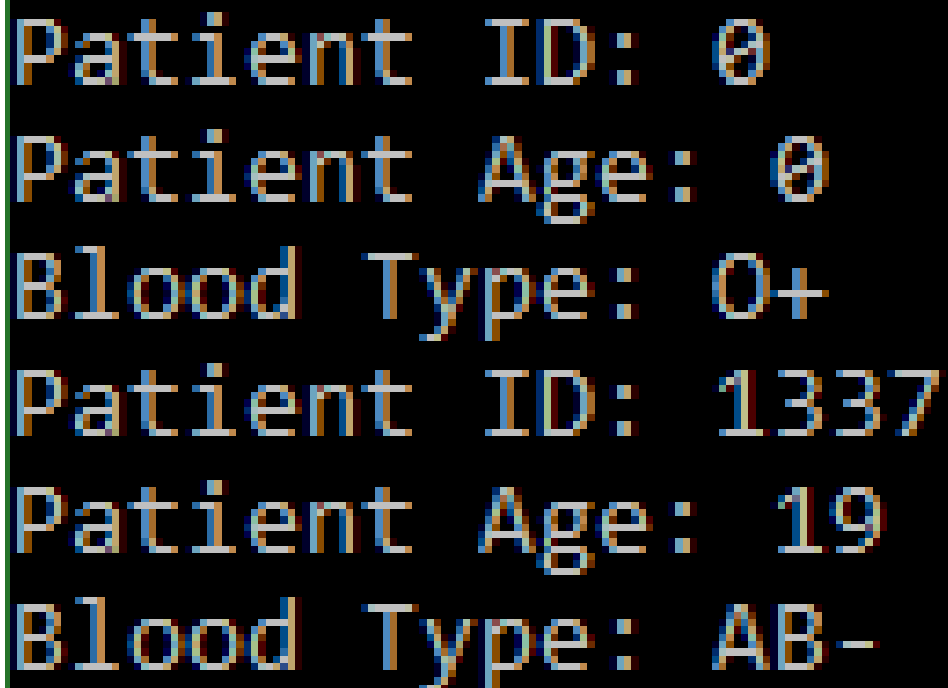


```
1  #ifndef BLOODDATA_H
2  #define BLOODDATA_H
3  #include <iostream> //Used here so that the other files do not need them re-typed
4  #include <string>
5  using namespace std;
6  //This class will store the user's blood type as a string and char but combine them as a string
7  class BloodData
8  {
9  private:
10     string blood_type; //For type of blood like AB, A, B, O
11     char RhFactor; //For the factor of + or -
12 public:
13     BloodData() //This constructor sets default values for both variables
14     {
15         blood_type = "O"; //Sets default value to variable
16         RhFactor = '+'; //Sets default value to variable
17     }
18     BloodData(char rF, string bt) //Overloaded constructor where parameters overload
19     {
20         //the default O and +
21         RhFactor = rF; //Variable to overload default, O
22         blood_type = bt; //Variable to overload default, +
23     }
24     string bloodType() //This function puts both inputs as one whole string
25     {
26         return (blood_type + RhFactor); //Combines the string and char to make one string
27     }
28 };
29 #endif // !BLOODDATA_H
```

```
1  #ifndef PATIENT_H
2  #define PATIENT_H
3  #include "BloodData.h"//Includes the data from the previous header in BloodData
4  //This class pertains to the patient's information where the blood type is attained
5  //from the BloodData header file
6  class Patient
7  {
8  private:
9      int ID_number;//The patients ID
10     int age;//The patients age
11     BloodData patientBT;//Uses the data from the other header's class
12 public:
13     Patient();//Default constructor
14     {
15         ID_number = 0;
16         age = 0;
17     }
18     Patient(int ID, int a, char rf, string bt) : patientBT(rf,bt)
19     { //Overloaded constructor that references the overloaded constructor from
      the other header file
20         ID_number = ID;//Overloaded ID number
21         age = a;//Overloaded age number
22     }
23     int getID();//Gets the ID number that has been entered
24     {
25         return ID_number;//Returns the ID number; displays it/holds it
26     }
27     int getAge();//Gets the age that has been entered
28     {
29         return age;//Returns the age; displays it/holds it
30     }
31     void displayBlood();//Displays the patients blood type
32     {
33         cout << "Blood Type: " << patientBT.bloodType() << endl;//Uses the
      function from the other class(header file)
34     }
      //to attain
      the blood type
35 };
36 #endif // !PATIENT_H
```

```
1  /*
2  Daniel Avila March 11th 2020 Section 19
3  Lab 6: Composition and Header Files
4  Description: In this lab, creating two different header files for two different  ↗
   classes was needed
5  Description: and using composition syntax to integrate one header into another and ↗
   both in main.
6  */
7  #include "Patient.h"//To implement the header Patient which has the #includes and ↗
   the other header file
8
9  int main()
10 {
11     Patient Timmy;
12     cout << "Patient ID: " << Timmy.getID() << endl;
13     cout << "Patient Age: " << Timmy.getAge() << endl;
14     Timmy.displayBlood();
15
16     Patient Spike(1337, 19, '-', "AB");
17     cout << "Patient ID: " << Spike.getID() << endl;
18     cout << "Patient Age: " << Spike.getAge() << endl;
19     Spike.displayBlood();
20
21     system("pause>nul");
22     return 0;
23 }
```



The screenshot shows the output of the C++ program. It displays the ID, age, and blood type for two patients: Timmy and Spike. The text is rendered in a monospaced font with a color gradient (blue, green, yellow, orange, red) on a black background.

```
Patient ID: 0
Patient Age: 0
Blood Type: O+
Patient ID: 1337
Patient Age: 19
Blood Type: AB-
```