Computer Class (100 points)

Objectives:

Classes, friend functions and overloaded operators.

Computer class:

Design a computer class (*Computer*) that describes a computer object. A computer has the following properties:

- Amount of Ram in GB (examples: 8, 16), defaults to 8.
- Hard drive size in GB (examples: 500, 1000), defaults to 500.
- Speed in GHz (examples: 1.6, 2.4), defaults to 1.6.
- Type (laptop, desktop), defaults to "desktop"

Provide the following functions for the class:

- A default constructor (constructor with no parameters) that initializes all the variables to their default values.
- A constructor with four parameters to initialize all four member variables.
- Getters(accessors) and setters(mutators) for all four member variables.
- Calculate the price using the following formulas:
    - **Laptop**: 600.00 + amount of ram in GB * 5.00 + Hard drive size * .15 + (speed in GHz - 1.6) * 200
    - **Desktop**: 400.00 + amount of ram in GB * 4.00 + Hard drive size in GB * .10 + (speed in GHz - 1.6) * 200

- Overload the << operator to output all properties of a computer.
- Overload the >> operator that reads all four properties of a computer.
- Overload the == operator test if two computers are the same (all properties must match)
- Overload the < operator that compares the prices of two computers.

You don't have to check for invalid values.
Test the Computer class with the following main program.

```
int main()
{
      Computer comp; //use default constructor
      Computer comp1(16, 1000, 1.6, "Laptop");
      cout << comp << endl; //output defaults
      cout << endl;
      cout << comp1 << endl;
      cout << endl;

      comp1.setRam(32);
      comp1.setHd(2000);

      int compRam = comp1.getRam();
      cout << "The computer ram was changed to "
           << comp1.getRam() << endl;
      cout << "The computer hd was changed to "
          << comp1.getHd() << endl;
      cout << "Updated info" << endl << endl;
      cout << comp1 << endl;
      cout << endl;
      comp1.setType("Desktop");
      cout << "Computer type was changed to Desktop" << endl;
      cout << comp1 << endl;

      Computer comp2;
      cout << "Enter specs of a computer (Ram, HD, Speed, Type)" << endl;
      cin >> comp2;
      cout << comp2 << endl;
      if (comp1 < comp2)
      {
            cout << "Computer 2 is more expensive" << endl;
      }
      if (comp1 == comp2)
      {
            cout << "comp1 and comp2 have the same specifications" << endl;
      }

      return 0;
}
```