This is my instructions:

1. Inheritance and Polymorphism (30 points)
Design a Ship class that has the following members:
• A member variable for the name of the ship (a string)
• A member variable for the year that the ship was built (an int)
• Appropriate constructors, accessors and mutators
• A print function that displays the ship's name and the year it was built.
Design a CruiseShip class that is derived from the Ship class. The CruiseShip class should have the following members:
• A member variable for the maximum number of passengers (an int)
• Appropriate constructors, accessors and mutators
• A print function that overrides the print function in the base class. The CruiseShip class's print function should display only the ship's name and the maximum number of passengers.
1
Design a CargoShip class that is derived from the Ship class. The CargoShip class should have the following members:
• A member variable for the cargo capacity in tonnage (an int)
• Appropriate constructors, accessors and mutators
• A print function that overrides the print function in the base class. The CargoShip class's print function should display only the ship's name and the ship's cargo capacity.

//Here is the part I don't understand
To demonstrate the working of the classes create two objects of each type. The first object (for each type) must be created using the constructor that takes values for all of the data members. The second object must be created using the default constructor and mutators methods must be used to set the values of the data members. Also, make sure to get inputs from the user for each of the data member and NOT hardcode them in the program. You can define variables for getting these user inputs and then pass these variables to the constructors and the mutators. The program then should call each object's print function to display the data stored in them.

This is my code:

```
//
//  main.cpp
//  ship
//
//  Created by Pedro Andalon on 1/26/16.
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//

#include <iostream>
#include <cstring>

using namespace std;

//=========================================Ship
Class==================================
```

```
class Ship
{
private:
   string shipsName;
   int yearBuilded;

public:
   void setShipsName(string);
   void setYearBuilded(int);
   void printShip();
   string getShipsName();
   int getYearBuiled();
};

//Setters for our class Ship================================
void Ship::setShipsName(string n)
{
   shipsName=n;
}
void Ship::setYearBuilded(int y)
{
   yearBuilded=y;
}
void Ship::printShip()
{
   cout<<"Ship's Name: "<<getShipsName()<<"\n";
   cout<<"This ship was builded: "<<getYearBuiled();
}
//Getters for our class Ship==================================
string Ship::getShipsName()
{
   return shipsName;
}
int Ship::getYearBuiled()
{
   return yearBuilded;
}

//=========================================CruiseShip
Class================================

class CruiseShip: public Ship
{
private:
   int maxPassengers;

public:
   void setMaxPassengers(int);
```

```
    void printCruiseShip();
    int getMaxPassengers();
};

//Setters for the inheritance class====================
void CruiseShip::setMaxPassengers(int mxp)
{
    maxPassengers=mxp;
}
void CruiseShip::printCruiseShip()
{
    cout<<"Ship's Name: "<<getShipsName()<<"\n";
    cout<<"Maximum Passenger: "<<getMaxPassengers();
}

//Getters for the inheritance class======================
int CruiseShip::getMaxPassengers()
{
    return maxPassengers;
}

//=========================================CargoShip
Class==================================

class CargoShip: public Ship
{
private:
    int capacityTonnage;

public:
    void setCapacityTonnage(int);
    void printCargoShip();
    int getCapacityTonnage();
};

//Setters for the inharitance class============================
void CargoShip::setCapacityTonnage(int t)
{
    capacityTonnage=t;
}
void CargoShip::printCargoShip()
{
    cout<<"Ship's Name: "<<getShipsName()<<"\n";
    cout<<"Cargo Capacity: "<<getCapacityTonnage()<<"Ton";
}

//Getters for the inheritance class============================
int CargoShip::getCapacityTonnage()
{
```

```
    return capacityTonnage;
}

int main(int argc, const char * argv[]) {
    // insert code here...
    std::cout << "Hello, World!\n";
    return 0;
}
```