Philip Pesic

Week 9

October 16 2022

Week 9 Prog 1

Step 1 - Define 2 classes. Above int main()

Create a class called PLAYER

        string name

        getName()

        setName(string)

        default constructor - set name to 'Unknown'

        parm constructor - set name to one name on list of names below

Create a class Called TEAM

        Use pointers: player * ptrPlayer1.... * ptrPlayer7 ... OR ... Use an Array of players.... (Hard way or Easy - You choose)

        (Aggregation - use one pointer or index for each player)

        printAllNames()

        default constructor - assign each pointer to a player to null/ or array player to unassigned...

Step 2 - Declare instances of classes. In int main()

Philip Pesic

Week 9

October 16 2022

Week 9 Prog 1

Instantiate 7 players

  Use parm constructor on the first 4 player names

  Use the default constructor then use setNames on the last 3 player names

  Use the following names: George, Ivan, Hang, Tuyet, Sue, Victoria and Tumbo

Instantiate two teams: basket ball Team , Soccer Team

Step 3 - Use classes. In int main()

Set the last 3 player names using setNames

Add any 5 of the player to the basket ball team, one at a time (5 statements - pass player pointer)

Add all 7 of the players to the soccer team (7 statements - pass player pointer)

Print out all the members' names in the basket ball team, use printAllNames()

Print out all the members' names in the soccer team, use printAllNames()

Delete the Basket ball team

Print out all names in the Basket Ball team

Delete the Soccer Team.

Print out all player names.

Philip Pesic

Week 9

October 16 2022

Week 9 Prog 1

Delete each player


```cpp
//

//  main.cpp

//  Week 9 Prog 1

//

//  Created by Pippo Pesic on 10/12/22.

//


#include <iostream>

#include <string>

using namespace std;


class Player {

        string name;

public:

        string getName() {

        return name;

        }

        void setName (string inName) {
```

Week 9 Prog 1

```cpp
        name = inName;

        }

        Player() {

        name = "";

        }

        Player(string inName) {

        name = inName;

        }

};


class Team {

public:

        Player* pPlayerArr[7];


        void printPlayers() {

        for (int i = 0; i < 7; i++) {

        if (pPlayerArr[i] != NULL) {

                cout << i+1 << " " << pPlayerArr[i]->getName() << endl;

        }

        }

        }
```

Philip Pesic

Week 9

October 16 2022

Week 9 Prog 1

```cpp
        Team() {

        for (int i = 0; i < 7; i++) {

        pPlayerArr[i] = NULL;

        }

        }

};


int main() {

        Player* pPlayer1 = new Player("George");

        Player* pPlayer2 = new Player("Ivan");

        Player* pPlayer3 = new Player("Hang");

        Player* pPlayer4 = new Player("Tuyet");

        Player* pPlayer5 = new Player();

        pPlayer5->setName("Sue");

        Player* pPlayer6 = new Player();

        pPlayer6->setName("Victoria");

        Player* pPlayer7 = new Player();

        pPlayer7->setName("Tumbo");
```

Philip Pesic

Week 9

October 16 2022

Week 9 Prog 1

```cpp
Team* pBasketballTeam = new Team();

Team* pSoccerTeam = new Team();



pBasketballTeam->pPlayerArr[0] = pPlayer1;

pBasketballTeam->pPlayerArr[1] = pPlayer2;

pBasketballTeam->pPlayerArr[2] = pPlayer3;

pBasketballTeam->pPlayerArr[3] = pPlayer4;

pBasketballTeam->pPlayerArr[4] = pPlayer5;


cout << "Basketball players:" << endl;

pBasketballTeam->printPlayers();

cout << endl << endl;


cout << "Soccer players:" << endl;

pSoccerTeam->pPlayerArr[0] = pPlayer1;

pSoccerTeam->pPlayerArr[1] = pPlayer2;

pSoccerTeam->pPlayerArr[2] = pPlayer3;

pSoccerTeam->pPlayerArr[3] = pPlayer4;

pSoccerTeam->pPlayerArr[4] = pPlayer5;

pSoccerTeam->pPlayerArr[5] = pPlayer6;
```

Philip Pesic

Week 9

October 16 2022

Week 9 Prog 1

```cpp
        pSoccerTeam->pPlayerArr[6] = pPlayer7;


        pSoccerTeam->printPlayers();

        cout << endl << endl;


        delete pBasketballTeam;


        cout << "Basketball players after team deletion:" << endl;

        cout << pPlayer1->getName() << endl;

        cout << pPlayer2->getName() << endl;

        cout << pPlayer3->getName() << endl;

        cout << pPlayer4->getName() << endl;

        cout << pPlayer5->getName() << endl;

        cout << endl << endl;


        delete pSoccerTeam;


        cout << "Soccer players after team deletion:" << endl;

        cout << pPlayer1->getName() << endl;

        cout << pPlayer2->getName() << endl;

        cout << pPlayer3->getName() << endl;
```

Philip Pesic

Week 9

October 16 2022

Week 9 Prog 1

```cpp
        cout << pPlayer4->getName() << endl;

        cout << pPlayer5->getName() << endl;

        cout << pPlayer6->getName() << endl;

        cout << pPlayer7->getName() << endl;

        cout << endl << endl;


        delete pPlayer1;

        delete pPlayer2;

        delete pPlayer3;

        delete pPlayer4;

        delete pPlayer5;

        delete pPlayer6;

        delete pPlayer7;


        cout << "Philip Pesic 10/16/22" << endl;

        return 0;
}
```
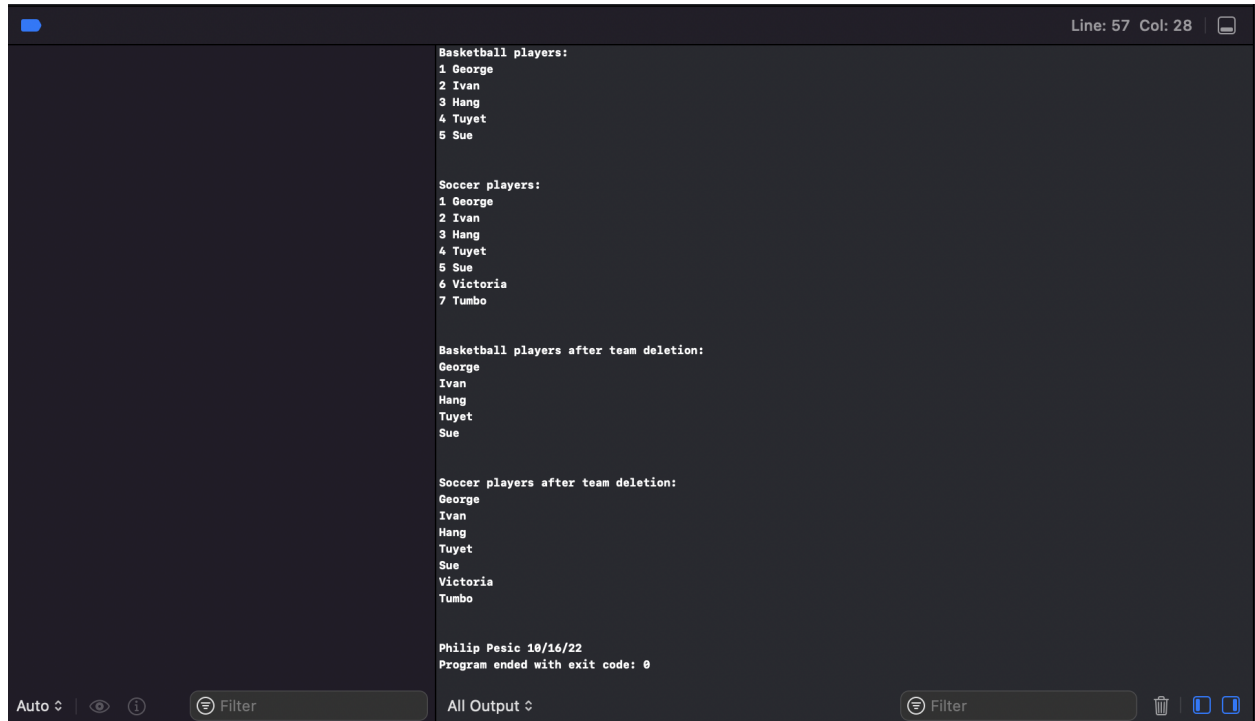
Philip Pesic

Week 9

October 16 2022

Week 9 Prog 1

```
Basketball players:
1 George
2 Ivan
3 Hang
4 Tuyet
5 Sue


Soccer players:
1 George
2 Ivan
3 Hang
4 Tuyet
5 Sue
6 Victoria
7 Tumbo


Basketball players after team deletion:
George
Ivan
Hang
Tuyet
Sue


Soccer players after team deletion:
George
Ivan
Hang
Tuyet
Sue
Victoria
Tumbo


Philip Pesic 10/16/22
Program ended with exit code: 0
```

Philip Pesic

Week 9

October 16 2022
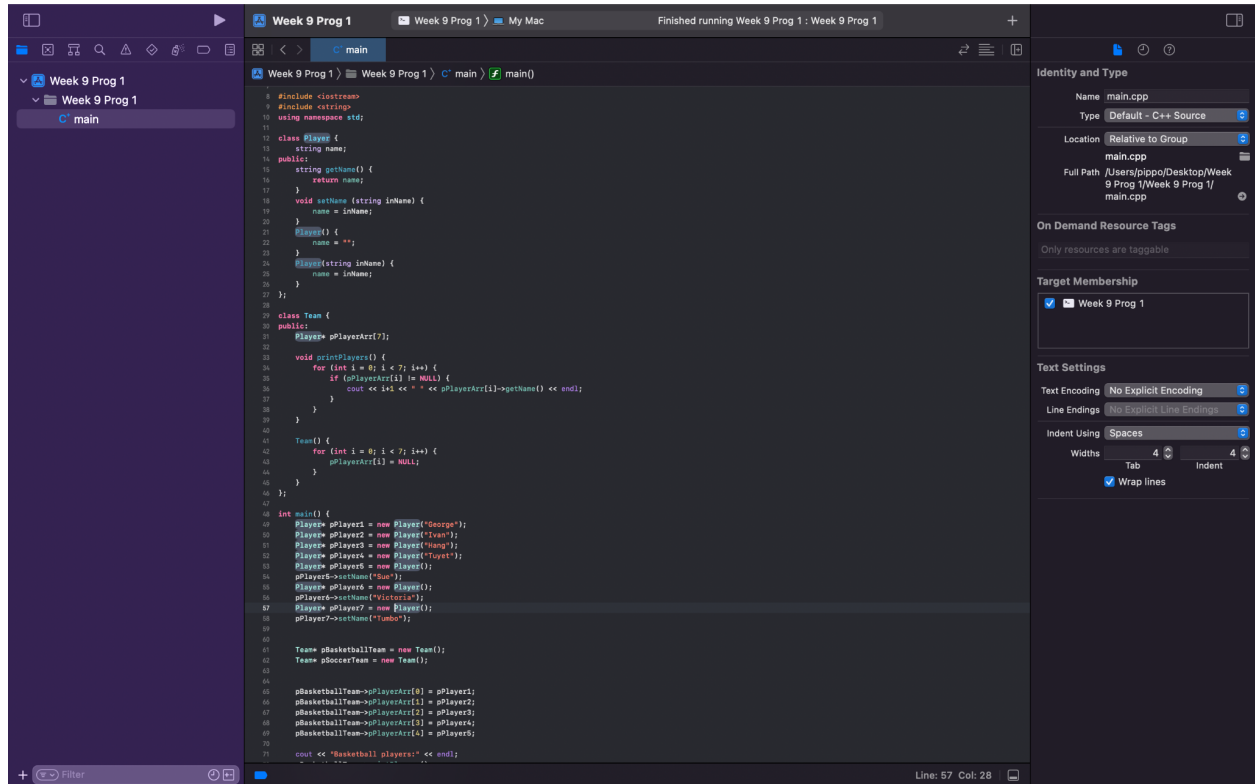
Week 9 Prog 1

```cpp
#include <iostream>
#include <string>
using namespace std;

class Player {
    string name;
public:
    string getName() {
        return name;
    }
    void setName (string inName) {
        name = inName;
    }
    Player() {
        name = "";
    }
    Player(string inName) {
        name = inName;
    }
};

class Team {
public:
    Player* pPlayerArr[7];

    void printPlayers() {
        for (int i = 0; i < 7; i++) {
            if (pPlayerArr[i] != NULL) {
                cout << i+1 << " " << pPlayerArr[i]->getName() << endl;
            }
        }
    }

    Team() {
        for (int i = 0; i < 7; i++) {
            pPlayerArr[i] = NULL;
        }
    }
};

int main() {
    Player* pPlayer1 = new Player("George");
    Player* pPlayer2 = new Player("Ivan");
    Player* pPlayer3 = new Player("Hang");
    Player* pPlayer4 = new Player("Tuyet");
    Player* pPlayer5 = new Player();
    pPlayer5->setName("Sue");
    Player* pPlayer6 = new Player();
    pPlayer6->setName("Victoria");
    Player* pPlayer7 = new Player();
    pPlayer7->setName("Tumbo");

    Team* pBasketballTeam = new Team();
    Team* pSoccerTeam = new Team();

    pBasketballTeam->pPlayerArr[0] = pPlayer1;
    pBasketballTeam->pPlayerArr[1] = pPlayer2;
    pBasketballTeam->pPlayerArr[2] = pPlayer3;
    pBasketballTeam->pPlayerArr[3] = pPlayer4;
    pBasketballTeam->pPlayerArr[4] = pPlayer5;

    cout << "Basketball players:" << endl;
```
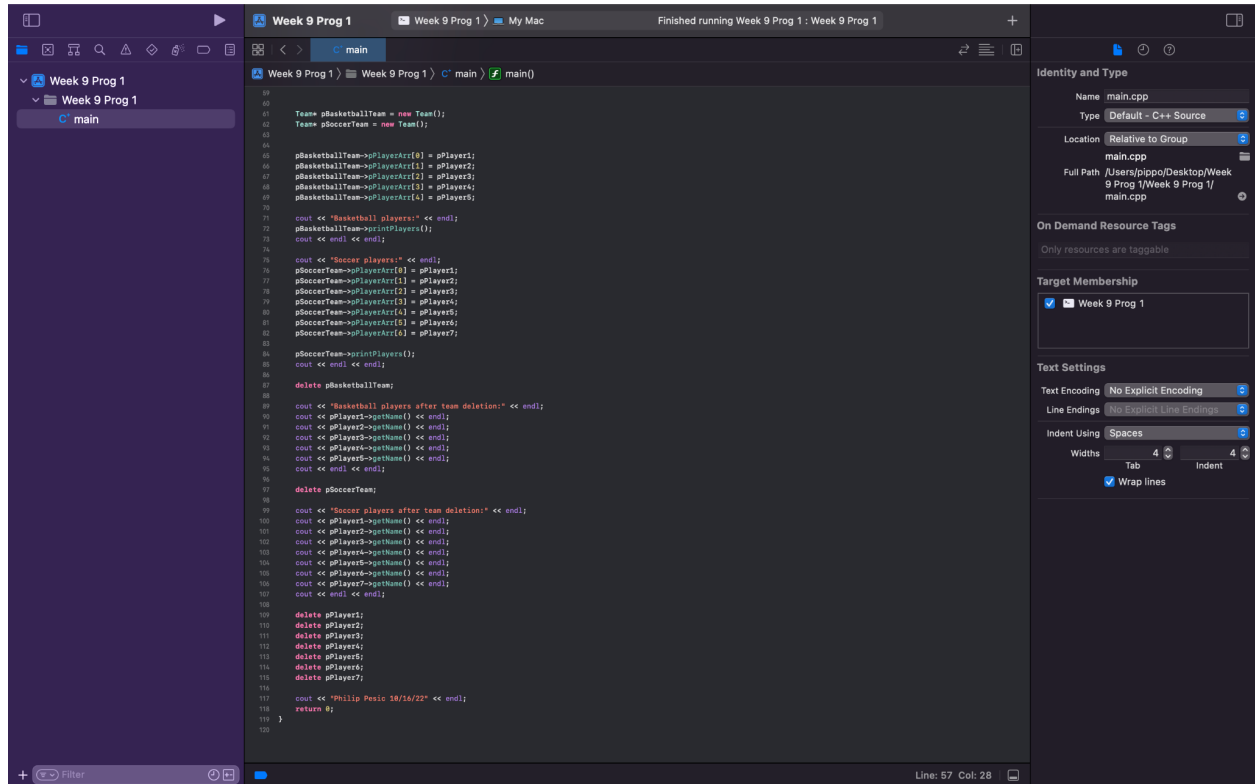
Philip Pesic

Week 9

October 16 2022

Week 9 Prog 1

I learned: how to utilize aggregation to relate parts of classes to classes while keeping them

independent