Week 15
Exception Handling & Runtime Polymorphism

Lab 13 - Athlete Salaries

Create a program that tracks athlete salary data from various sports. Using the athlete base class below, derive classes to track data from the NBA MLB & NHL.

Be sure to dynamically allocate the object during run time by utilizing the concepts from polymorphism. (There should only be one instance of an Athlete in your main)

In addition utilize exception handling to verify when a user enters invalid input. When an exception is thrown a default value of 1 may be assigned.

```
class Athlete
{
protected:
   double salary;
   string position;
   string league;
public:
   Athlete(string sport, double sal)
   {
      salary = sal;
      league = sport;
   }

   virtual void pickLeaguePosition() = 0;
   virtual void displayLeagueSalaryData() = 0;
   string getAthletePosition(){return position;}
   string getAthleteSport(){return league;}

};


//begin with this pointer in your main
shared_ptr<Athlete> unknown = nullptr;
```

Expected Output!

Run 1:	Run 2:	Run 3:
Which Sport does the athlete play? **(1-3)** **1: NBA** **2: MLB** **3: NHL** 1 **What is the Athlete's Salary?** 3800000 **Which position does the athlete play?** **(1-5)** **1: point guard** **2: shooting guard** **3: small forward** **4: power forward** **5: center** 4 **Athlete Data: NBA Power Forward** **This Athlete's salary of $3800000.00 compares to 82.97% of the average NBA player's salary of $4580000.00**	**Which Sport does the athlete play?** **(1-3)** **1: NBA** **2: MLB** **3: NHL** **2** **What is the Athlete's Salary?** 3770000 **Which position does the athlete play?** **(1-5)** **1: pitcher** **2: catcher** **3: baseman** **4: shortstop** **5: outfielder** 0 **invalid output: setting default value 1.** **Athlete Data: MLB Pitcher** **This Athlete's salary of $3770000.00 compares to 90.41% of the average MLB player's salary of $4170000.00**	**Which Sport does the athlete play?** **(1-3)** **1: NBA** **2: MLB** **3: NHL** 3 **What is the Athlete's Salary?** 3000000 **Which position does the athlete play?** **(1-4)** **1: center** **2: winger** **3: defenseman** **4: goalie** 3 **Athlete Data: NHL Defenseman** **This Athlete's salary of $3000000.00 compares to 114.50% of the average NHL player's salary of $2620000.00**