```
//------------------------------------------------------------
// Author: Shyaan Khan     Period: 4          Date:
// Description: The super class is Player, and the subclasses are PointGuard and
Center,
// which are both positions of a basketball Player. The interface is Practice, which
// both a Player can do and a Musician can do.
//------------------------------------------------------------

public abstract class Player {

        private int number;
        private String name;
        private String team;
        public Player(String name, int number, String team)
        {
                this.name = name;
                this.number = number;
                this.team = team;
        }

        public String getName()
        {
                return name;
        }

        public int getNumber()
        {
                return number;
        }

        public String getTeam()
        {
                return team;
        }

        public abstract String pass(Player a);
        public abstract String rebound(Player a);
        public abstract String block(Player a);

}

public class Center extends Player implements Practice{

        private double reboundsPerGame;

        public Center(String name, int number, String team, double reboundsPerGame){
                super(name, number, team);
                this.reboundsPerGame = reboundsPerGame;
        }

        public double getReboundsPerGame()
        {
                return reboundsPerGame;
        }
```

```java
        public String pass(Player a)
        {
                String nameNewPlayer = a.getName();
                return "The ball has been passed to "+nameNewPlayer;
        }

        public String rebound(Player a)
        {
                String nameNewPlayer = a.getName();
                return a.getName()+" has got the rebound.";

        }

        public String block(Player a)
        {
                String nameNewPlayer = a.getName();
                return a.getName()+" has been blocked.";

        }

        public String practice()
        {
                return getName()+" has practiced his post moves";
        }
}


public class PointGuard extends Player implements Practice{

        private double assistsPerGame;

        public PointGuard(String name, int number ,String team, double assistsPerGame)
        {
                super(name, number, team);
                this.assistsPerGame = assistsPerGame;
        }

        public double getAssistsPerGame()
        {
                return assistsPerGame;
        }


        public String pass(Player a)
        {
                String nameNewPlayer = a.getName();
                return "The ball has been passed to "+nameNewPlayer;
        }

        public String rebound(Player a)
        {
                String nameNewPlayer = a.getName();
                return a.getName()+" has got the rebound.";
```

```java
        }

        public String block(Player a)
        {
                String nameNewPlayer = a.getName();
                return a.getName()+" has been blocked.";

        }

        public String practice()
        {
                return getName()+" has practiced dribbling and 3 point shooting";
        }
}
```

```java
public interface Practice {

        public String practice();

}
```

```java
public class Musician implements Practice{

        private String name;
        private String instrument;


        public Musician(String name, String instrument)
        {
                this.name = name;
                this.instrument = instrument;
        }

        public String getName()
        {
                return name;
        }

        public String getInstrument()
        {
                return instrument;
        }


        public String practice()
        {
                return getName()+" has practiced playing the "+getInstrument();
        }

}
```

```java
public class TestClass {
        public static void main(String [] args){
```

```java
        Player steve = new PointGuard("Steve Nash", 10, "Lakers", 8.6);
        Player dwight = new Center("Dwight Howard", 12, "Rocekts", 12.8);
        Musician beethoven = new Musician("Beethoven", "Piano");

        System.out.println(steve.pass(dwight));
        System.out.println(dwight.block(steve));
        System.out.println(beethoven.practice());


        PointGuard newSteve = (PointGuard)steve;
        double apg = newSteve.getAssistsPerGame();
        System.out.println(apg);

    }

}
```

OUTPUT:

```
The ball has been passed to Dwight Howard
Steve Nash has been blocked.
Beethoven has practiced playing the Piano
8.6
```