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Assignment 6

MealCard.java

```
//part of package pkg

package pkg;

public class MealCard{//open class


	//Class static variable cards and instance variable points.

	public static int Cards = 0;

	public static final int StartingPoints = 1000;

	private int points;



	//Constructor method

	public MealCard(){//open constructor

		//card starts with 1000 points

		this.points = StartingPoints;

		//every time a card is created, increment class variable

		Cards++;

	}//close constructor


	//Getter for instance variable

	public int getPoints(){//open getter

		return this.points;

	}//close getter
```

```
	//Setter for instance variable
	public void setPoints(int Points){//open setter
		this.points = Points;
	}//close setter

	//PurchaceItem method
	public void purchaceItem(int cost){//open method
		//Check that there are enough points in card
		if (this.getPoints() - cost < 0){//open if condition
			//If not, print useful statement
			System.out.println("Not enough points for this purchace.");
		}else{//close if, open else condition
			//If there is, deduct points from account and print useful, formatted statement.
			this.points -= cost;
			String s = String.format("%, d",this.getPoints());
			System.out.println("Purchace Successful. You now have "+s+" Points remaining.");
		}//close else condition
	}//close method

	//PurchacePoints method
	public void purchacePoints(int ammount){//open method
		//Add inputted points to account
		this.points += ammount;
		//print formatted String of new balance
		String s = String.format("%, d",this.getPoints());
		System.out.println("Your new balance is "+s+" points.");
```

```
	}//close method


	//@Override toString
	public String toString(){//open toString method
		//format the points in the card to include commas
		String s = String.format("%, d",this.getPoints());
		//return string consisting of all instance variables and class variables.
		return "Points: "+s+". Cards Distributed: "+this.Cards;
	}//close toString method
}//close class
```

Student.java

```
//part of package pkg
package pkg;
public class Student{//open class


	//Instance variables
	private String name;
	private int age;
	private String address;
	//Create a MealCard object for the Student.
	public MealCard Card = new MealCard();


	//@Constructor
	public Student(){//open Constructor
		//Default instance variables to 0 or equivalent
		this.name = "unassigned";
```

```
        this.age = 0;
        this.address = "unassigned";
}//close Constructor

//@Overload Constructor
public Student(String Name, int Age, String Address){//open Overload Constructor
        //Set instance variables to inputted values
        this.name = Name;
        this.age = Age;
        this.address = Address;
}//close Overload Constructor

//Setters and Getters for instance variables

public void setName(String Name){//open setter
        this.name = Name;
}//close setter

public void setAge(int Age){//open setter
        this.age = Age;
}//close setter

public void setAddress(String Address){//open setter
        this.address = Address;
}//close setter

public String getName(){//open getter
```

```
		return this.name;
	}//close getter

	public int getAge(){//open getter
		return this.age;
	}//close getter

	public String getAddress(){//open getter
		return this.address;
	}//close getter

	//@Override toString
	public String toString(){//open method
		return "Name: "+this.getName()+" Age: "+this.getAge()+" Address: "+this.getAddress();
	}//close method
}//close class
```

MealTest.java

```
//import the created package, pkg
import pkg.*;
public class MealTest{//open class

	public static void main(String[] args){//open main method

		//Create Student Object Adam
		Student Adam = new Student("Adam",18,"Galway");
```

```
//Print out Adam's Details.
System.out.println("Student Name: "+Adam.getName());
System.out.println("Student Age: "+Adam.getAge());
System.out.println("Student Address: "+Adam.getAddress());

//Test purchaceItem method and Class Variable
System.out.println("\nUsing Adam's Card to purchace 500 point item.");
Adam.Card.purchaceItem(500);
System.out.println("Cards Created:"+Adam.Card.Cards);



//Create Student Object Bob
Student Bob = new Student("Bob",20,"Dublin");

//Print out Bob's Details
System.out.println("\n\nStudent Name: "+Bob.getName());
System.out.println("Student Age: "+Bob.getAge());
System.out.println("Student Address: "+Bob.getAddress());

//Test purchaceItem method without enough points
System.out.println("\nTrying to purchace 2000 point item with Bob's Card.");
Bob.Card.purchaceItem(2000);

//Test purchacePoints method
System.out.println("\nPurchasing 1000 points for Bob's Card.");
Bob.Card.purchacePoints(1000);
```

```
        //Test purchaceItem method with exactly enough points
        System.out.println("\nTrying again to purchace 2000 point item with Bob's Card.");
        Bob.Card.purchaceItem(2000);

        //Check that class variable has incremented.
        System.out.println("Cards Created:"+Bob.Card.Cards);

    }//close main method

}//close class
```

```
D:\Users\marti\Files\Programming\Java\OOP2\Assignment6>java MealTest
Student Name: Adam
Student Age: 18
Student Address: Galway

Using Adam's Card to purchace 500 point item.
Purchace Successful. You now have  500 Points remaining.
Cards Created:1


Student Name: Bob
Student Age: 20
Student Address: Dublin

Trying to purchace 2000 point item with Bob's Card.
Not enough points for this purchace.

Purchasing 1000 points for Bob's Card.
Your new balance is  2,000 points.

Trying again to purchace 2000 point item with Bob's Card.
Purchace Successful. You now have  0 Points remaining.
Cards Created:2
```