

## Solution 1 – Abstract Factory Design Pattern

```
package factory;

public interface CourseFactory {
    public String makeStarter();
    public String makeMain();
    public String makeDessert();
}

public class MeatFactory implements CourseFactory{

    public String makeStarter(){
        return ("liver pate");
    }
    public String makeMain() {
        return ("fillet steak");
    }
    public String makeDessert(){
        return ("ice cream");
    }
}

public class VeganFactory implements CourseFactory{

    public String makeStarter(){
        return ("asparagus");
    }
    public String makeMain() {
        return ("nut cutlet");
    }
    public String makeDessert(){
        return ("fruit");
    }
}

public class OmniFactory implements CourseFactory{

    public String makeStarter(){
        return ("tomato soup");
    }
    public String makeMain() {
        return ("steak & kidney pie");
    }
    public String makeDessert(){
        return ("fruit");
    }
}
```

```
public class Meal {

    private CourseFactory factory;

    public void setMeal(String meal) {
        if (meal.equals("Vegan"))
            factory = new VeganFactory();
        else if (meal.equals("Carnivore"))
            factory = new MeatFactory();
        else
            factory = new OmniFactory();
    }

    public String toString () {
        StringBuffer buffer = new StringBuffer();
        buffer.append("Starter:- ");
        buffer.append(factory.makeStarter());
        buffer.append("\n");
        buffer.append("Main:- ");
        buffer.append(factory.makeMain());
        buffer.append("\n");
        buffer.append("Dessert:- ");
        buffer.append(factory.makeDessert());
        buffer.append("\n\n");
        return buffer.toString();
    }
}
```