MASTER OF SCIENCE IN INFORMATION TECHNOLOGY SPECIALIZING IN
ENTERPRISE APPLICATIONS DEVELOPMENT
SLIIT METROPOLITAN CAMPUS
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Enterprise Software Analysis & Design

SE5060: EXERCISE 10

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MS20921576

September 8, 2020

Github - https://github.com/pradeep-sanjaya/ead-esad-exercise10

Classes

DecoratorTest.java

```java
package com.sliit;

public class DecoratorTest {
  public static void main(String[] args) {
    Meal meal = new Noodles();
    meal = new Chicken(meal);
    meal = new Fish(meal);
    meal = new Egg(meal);
    meal = new Vegetable(meal);

    System.out.println(meal.getName() + " => Rs. " + meal.getPrice());

    Meal meal2 = new Chicken(new Fish(new Egg(new Vegetable(new Bread()
    System.out.println(meal2.getName() + " => Rs. " + meal2.getPrice())

    Meal meal3 = new Fish(new Chicken(new Vegetable(new Egg(new Rice())
    System.out.println(meal3.getName() + " => Rs. " + meal3.getPrice())

    String description = new Egg(new Chicken(new Fish(new Noodles()))).
    double price = new Egg(new Chicken(new Fish(new Noodles()))).getPri

    System.out.println(description + " => Rs. " + price);
  }
}
```

Meal.java

```java
package com.sliit;

public abstract class Meal {

  private String name;
  private double price;

  public Meal() {
  }

  public String getName() {
    return name;
  }
```

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```java
  public void setName(String name) {
    this.name = name;
  }

  public double getPrice() {
    return price;
  }

  public void setPrice(float price) {
    this.price = price;
  }
}
```

Rice.java

```java
package com.sliit;

public class Rice extends Meal {
  public Rice() {
    setName("Rice");
    setPrice(100);
  }

  @Override
  public double getPrice() {
    return super.getPrice();
  }
}
```

Bread.java

```java
package com.sliit;

public class Bread extends Meal {
  public Bread() {
    setName("Bread");
    setPrice(80);
  }

  @Override
  public double getPrice() {
    return super.getPrice();
  }
}
```

Noodles.java

```java
package com.sliit;

public class Noodles extends Meal {
```

```java
public Noodles() {
  setName("Noodles");
  setPrice(90);
}

  @Override
  public double getPrice() {
    return super.getPrice();
  }
}
```

Chicken.java

```java
package com.sliit;

public class Chicken extends MealDecorator {

  public Chicken(Meal meal) {
    this.meal = meal;
  }

  @Override
  public String getName() {
    return meal.getName() + ",_Chicken";
  }

  @Override
  public double getPrice() {
    return meal.getPrice() + 50;
  }
}
```

Fish.java

```java
package com.sliit;

public class Fish extends MealDecorator {

  public Fish(Meal meal) {
    this.meal = meal;
  }

  @Override
  public String getName() {
    return meal.getName() + ",_Fish";
  }

  @Override
```

```java
    public double getPrice() {
      return meal.getPrice() + 40;
    }
}
```

Egg.java

```java
package com.sliit;

public class Egg extends MealDecorator {

  public Egg(Meal meal) {
    this.meal = meal;
  }

  @Override
  public String getName() {
    return meal.getName() + ", Egg";
  }

  @Override
  public double getPrice() {
    return meal.getPrice() + 30;
  }
}
```

Vegetable.java

```java
package com.sliit;

public class Vegetable extends MealDecorator {

  public Vegetable(Meal meal) {
    this.meal = meal;
  }

  @Override
  public String getName() {
    return meal.getName() + ", Vegetable";
  }

  @Override
  public double getPrice() {
    return meal.getPrice() + 20;
  }
}
```

MealDecorator.java

```java
package com.sliit;
```

```java
public abstract class MealDecorator extends Meal {
  Meal meal;

  public MealDecorator() {
  }

  public MealDecorator(Meal meal) {
    this.meal = meal;
  }

  public abstract String getName();
  public abstract double getPrice();
}
```
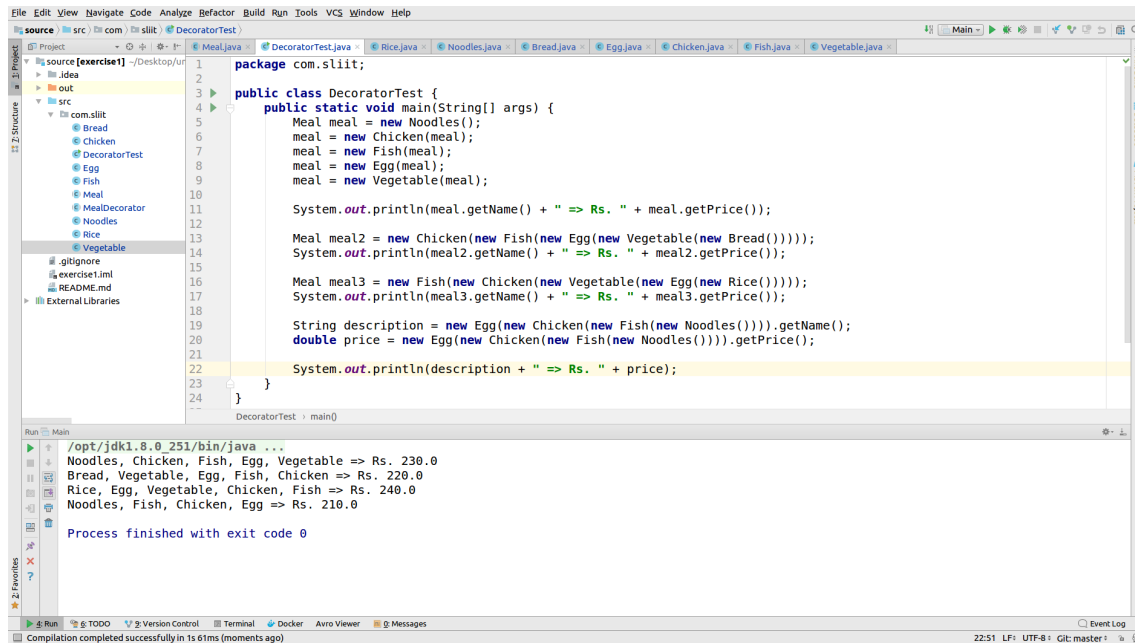
Screenshots

Figure 0.1: Solution

REFERENCES

[1] Samarathunge, U. (2020) Lecture - 03 GOF Design Patterns Part I

[2] Samarathunge, U. (2020) Lecture - 03 GOF Design Patterns Part II-v2

[3] Samarathunge, U. (2020) Lecture - 03 GOF Design Patterns Part II With Answers

[4] Samarathunge, U. (2020) Lecture - 03 GOF Design Patterns Part III