Assignmemt-1 & 2

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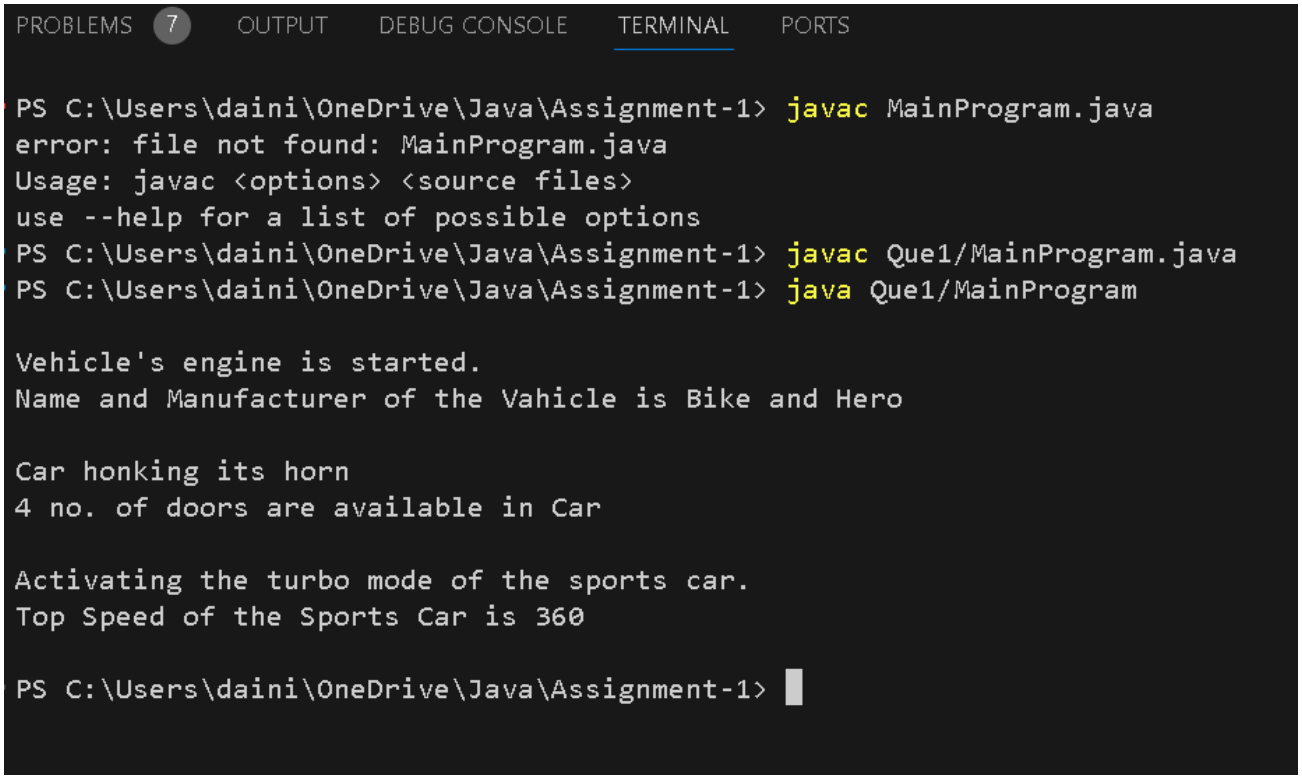
Div:- B **Roll no.: -** 3133

Sub: - JAVA Practical

Question-1

```
package Que1;
class Vehicle {
    String name = "Bike";



    String manufacturer = "Hero";

    void startEngine() {
        System.out.println("\nVehicle's engine is started.");
    }
}

class Car extends Vehicle {
    int numDoors = 4;

    void honkHorn() {
        System.out.println("Car honking its horn");
    }
}

class SportsCar extends Car {
    int topSpeed = 360;

    void activateTurbo() {
```

```
        System.out.println("Activating the turbo mode of the sports car.");
    }
}

class MainProgram {
    public static void main(String args[]) {
        Vehicle V1 = new Vehicle();
        Car C1 = new Car();
        SportsCar S1 = new SportsCar();


        V1.startEngine();
        System.out.printf("Name and Manufacturer of the Vahicle is %s and
%s\n\n",V1.name,V1.manufacturer);
        C1.honkHorn();
        System.out.printf("%d no. of doors are available in
Car\n\n",C1.numDoors);
        S1.activateTurbo();
        System.out.printf("Top Speed of the Sports Car is %d\n\n",S1.topSpeed);
    }
}
```


PROBLEMS 7
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\daini\OneDrive\Java\Assignment-1> javac MainProgram.java
error: file not found: MainProgram.java
Usage: javac <options> <source files>
use --help for a list of possible options
PS C:\Users\daini\OneDrive\Java\Assignment-1> javac Que1/MainProgram.java
PS C:\Users\daini\OneDrive\Java\Assignment-1> java Que1/MainProgram
Vehicle's engine is started.
Name and Manufacturer of the Vahicle is Bike and Hero
Car honking its horn
4 no. of doors are available in Car
Activating the turbo mode of the sports car.
Top Speed of the Sports Car is 360
PS C:\Users\daini\OneDrive\Java\Assignment-1>

Question-2

```
package Que2;
import java.util.*;

abstract class Thali {
    private double price;
    Thali() {
        price = 0.0;
    }
    abstract void addSabji(double price);
    abstract void addDal(double price);
    abstract void addRice(double price);
    abstract void addRoti(double price);

    void makeThali() {
        System.out.println("\nVeg Thali will be ready in 30 minutes.\n");
    }

    public double getPrice() {
        return price;
    }

    protected void setPrice(double price) {
        this.price = price;
    }
}
```

```
class GujaratiThali extends Thali {
    void addSabji(double price) {
        price += getPrice();
        setPrice(price);
    }
    void addDal(double price) {
        price += getPrice();
        setPrice(price);
    }
    void addRice(double price) {
        price += getPrice();
        setPrice(price);
    }
    void addRoti(double price) {
        price += getPrice();
        setPrice(price);
    }
}

class PunjabiThali extends Thali {
    void addSabji(double price) {
        price += getPrice();
        setPrice(price);
    }
    void addDal(double price) {
```

```
        price += getPrice();
        setPrice(price);
    }
    void addRice(double price) {
        price += getPrice();
        setPrice(price);
    }
    void addRoti(double price) {
        price += getPrice();
        setPrice(price);
    }
}

class FactoryDesignPattern {
    static void choices(double... price) {
        System.out.println("\nChoices...");
        System.out.printf("1) Add Sabji (Rs.%d)\n", (int) price[0]);
        System.out.printf("2) Add Dal (Rs.%d)\n", (int) price[1]);
        System.out.printf("3) Add Rice (Rs.%d)\n", (int) price[2]);
        System.out.printf("4) Add Roti (Rs.%d)\n", (int) price[3]);
        System.out.printf("5) Complete Order\n");
        System.out.printf("6) Get Total Bill\n");
    }

    static void switchCase(Thali T, double... price) {
        choices(price);
```

```
Scanner S = new Scanner(System.in);
int choice;
System.out.print("\nEnter your Choice: ");
choice = S.nextInt();

while (true) {
   switch (choice) {
      case 1:
         T.addSabji(price[0]);
         choices(price);
         System.out.print("\nEnter your Choice: ");
         choice = S.nextInt();
         break;

      case 2:
         T.addDal(price[1]);
         choices(price);
         System.out.print("\nEnter your Choice: ");
         choice = S.nextInt();
         break;

      case 3:
         T.addRice(price[2]);
         choices(price);
         System.out.print("\nEnter your Choice: ");
         choice = S.nextInt();
```

```
                break;

            case 4:
                T.addRoti(price[3]);
                choices(price);
                System.out.print("\nEnter your Choice: ");
                choice = S.nextInt();
                break;

            case 5:
                T.makeThali();
                choices(price);
                System.out.print("\nEnter your Choice: ");
                choice = S.nextInt();
                break;

            case 6:
                System.out.println("\nTotal Payable Amount = Rs." + T.getPrice() +
"\n\n");
                return;

            default:
                break;
        }
    }
}
```

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

        Scanner S = new Scanner(System.in);
        System.out.print("Enter 1 for Gujarati Thali & 2 for Punjabi Thali: ");
        int choice = S.nextInt();

        switch (choice) {
            case 1:
                Thali G = new GujaratiThali();
                switchCase(G, 100, 60, 50, 20);
                break;

            case 2:
                Thali P = new PunjabiThali();
                switchCase(P, 120, 80, 70, 40);
                break;

            default:
                break;
        }
    }
}
```

```
PROBLEMS 7   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

PS C:\Users\daini\OneDrive\Java\Assignment-1> javac Que2/FactoryDesignPattern.java
PS C:\Users\daini\OneDrive\Java\Assignment-1> java Que2/FactoryDesignPattern
Enter 1 for Gujarati Thali & 2 for Punjabi Thali: 1

Choices...
1) Add Sabji (Rs.100)
2) Add Dal (Rs.60)
3) Add Rice (Rs.50)
4) Add Roti (Rs.20)
5) Complete Order
6) Get Total Bill

Enter your Choice: 1

Choices...
1) Add Sabji (Rs.100)
2) Add Dal (Rs.60)
3) Add Rice (Rs.50)
4) Add Roti (Rs.20)
5) Complete Order
6) Get Total Bill

Enter your Choice: 2

Choices...
1) Add Sabji (Rs.100)
2) Add Dal (Rs.60)
3) Add Rice (Rs.50)
4) Add Roti (Rs.20)
5) Complete Order
6) Get Total Bill

Enter your Choice: 5
```

```
Enter your Choice: 5

Veg Thali will be ready in 30 minutes.


Choices...
1) Add Sabji (Rs.100)
2) Add Dal (Rs.60)
3) Add Rice (Rs.50)
4) Add Roti (Rs.20)
5) Complete Order
6) Get Total Bill

Enter your Choice: 6

Total Payable Amount = Rs.160.0


PS C:\Users\daini\OneDrive\Java\Assignment-1>
```

Question-3

```
package Que3;
import java.util.*;

interface PizzaOrderSystem {
    Object[][] pizzas = {
            { "Margherita Pizza", 99.0000 },
            { "Cheese n Corn Pizza", 169.0000 },
            { "Cheese n Tomato Pizza", 169.0000 },
            { "Double Cheese Margherita Pizza", 189.0000 },
            { "Fresh Veggie Pizza", 189.0000 },
            { "Farmhouse Pizza", 229.0000 },
            { "Peppy Paneer Pizza", 229.0000 },
            { "Veggie Paradise Pizza", 229.0000 },
            { "Veg Extravaganza Pizza", 249.0000 }
    };

    void placeOrder(String pizzaType, int quantity);
    String checkOrderStatus(int orderId);
    boolean cancelOrder(int orderId);
    double calculateOrderCost(int orderId);
    Object[][] listAvailablePizzas();
}
```

```
class PizzaOrderProcessor implements PizzaOrderSystem {
    int orderId;

    ArrayList<ArrayList<Object>> orders = new ArrayList<ArrayList<Object>>();

    PizzaOrderProcessor() {
        // Default constructor
    }
    PizzaOrderProcessor(int orderId) {
        this.orderId = orderId;
    }

    public void placeOrder(String pizzaType, int quantity) {
        for (int i = 0; i < pizzas.length; i++) {
            if (pizzaType == pizzas[i][0]) {
                orders.add(new ArrayList<>(Arrays.asList(this.orderId, pizzaType,
pizzas[i][1], quantity)));
                return;
            }
        }
        System.out.println("This item is not available");
    }

    public String checkOrderStatus(int orderId) {
        for (int i = 0; i < orders.size(); i++) {
            if (orders.get(i).contains(orderId)) {
                return "Your order is Activated";
```

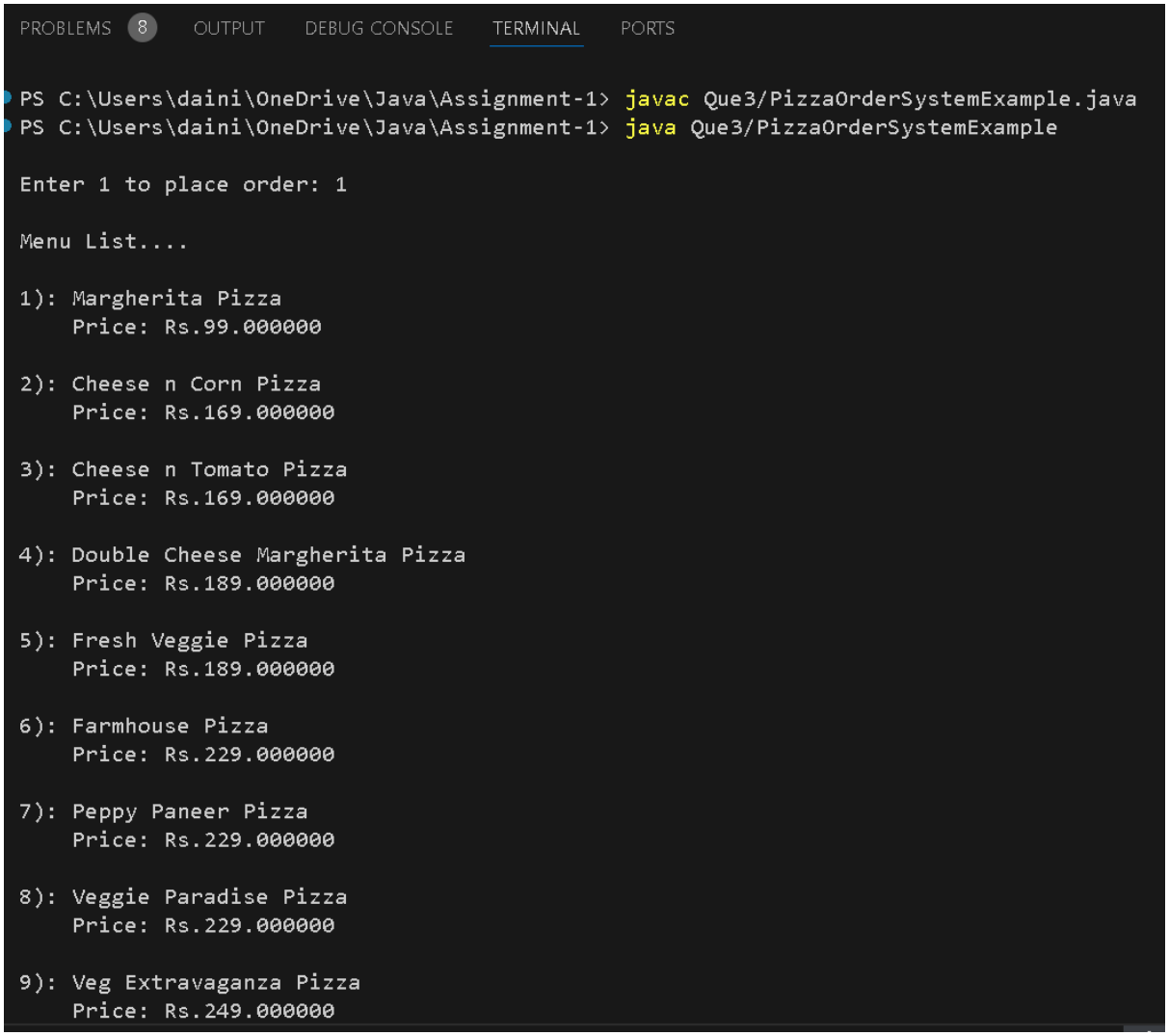
```
        }
      }
      return "Please! Place your order first";
   }

   public boolean cancelOrder(int orderId) {
      orders.clear();
      return true;
   }

   public double calculateOrderCost(int orderId) {
      double sum = 0;
      double mulQuantity = 1;
      for (int i = 0; i < orders.size(); i++) {
         if (orders.get(i).contains(orderId)) {
            mulQuantity = ((double) orders.get(i).get(2)) * ((int)
orders.get(i).get(3));
            sum += mulQuantity;
         }
      }
      return sum;

   }

   public Object[][] listAvailablePizzas() {
      return pizzas;
   }
```

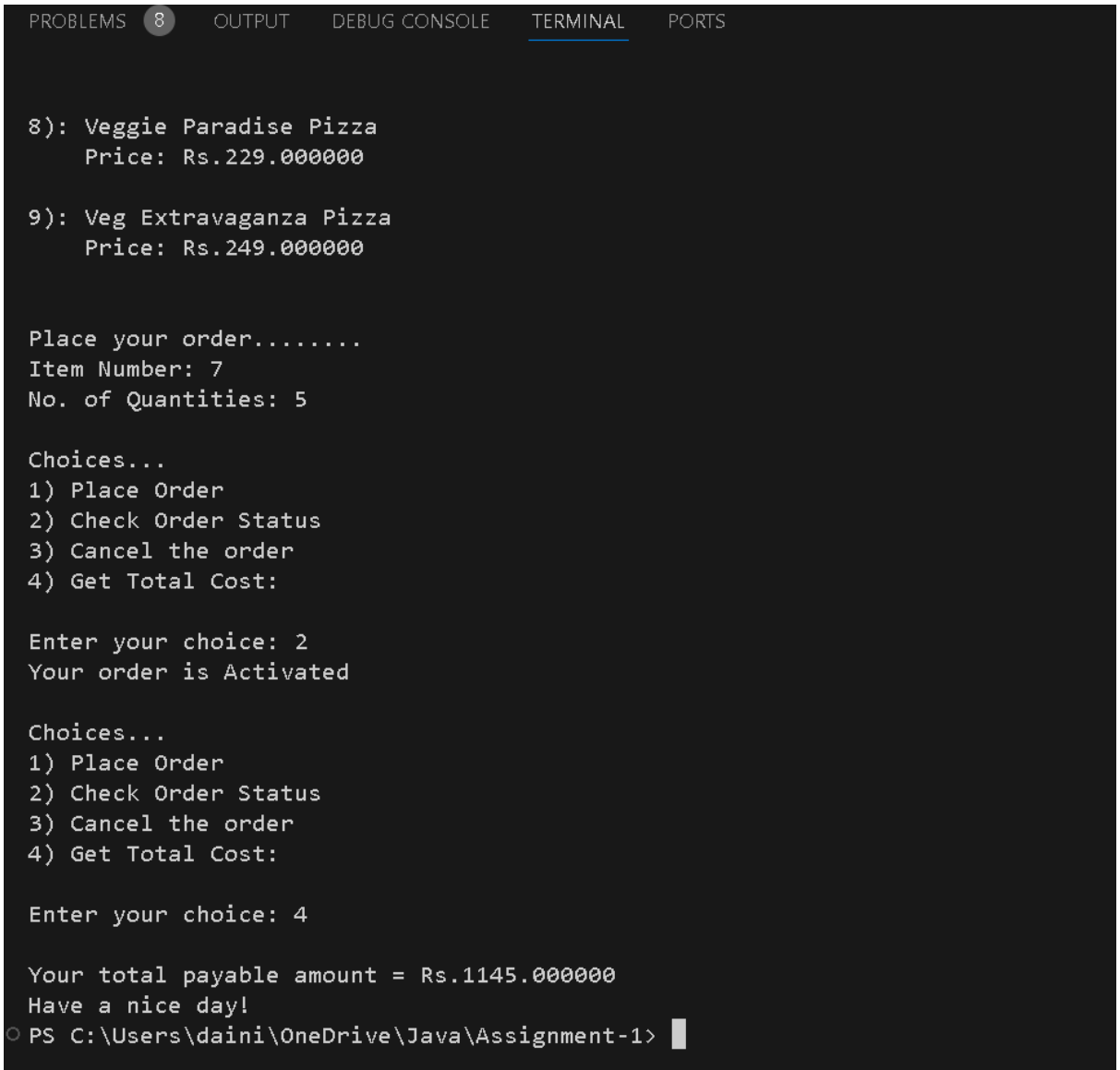
```
}

class PizzaOrderSystemExample {
   static void choices() {
      System.out.println("\nChoices...");
      System.out.println("1) Place Order");
      System.out.println("2) Check Order Status");
      System.out.println("3) Cancel the order");
      System.out.println("4) Get Total Cost: ");
   }

   static void printMenus() {
      PizzaOrderProcessor obj = new PizzaOrderProcessor();
      Object[][] pizzas = obj.listAvailablePizzas();

      System.out.println("\nMenu List....\n");
      for (int i = 0; i < pizzas.length; i++) {
         System.out.printf("%d): %s\n    Price: Rs.%f\n\n", i + 1, pizzas[i][0],
pizzas[i][1]);
      }
   }

   public static void main(String args[]) {
      int choice, orderId = 1111, itemNo, quantity;

      PizzaOrderSystem P = new PizzaOrderProcessor(orderId);
```

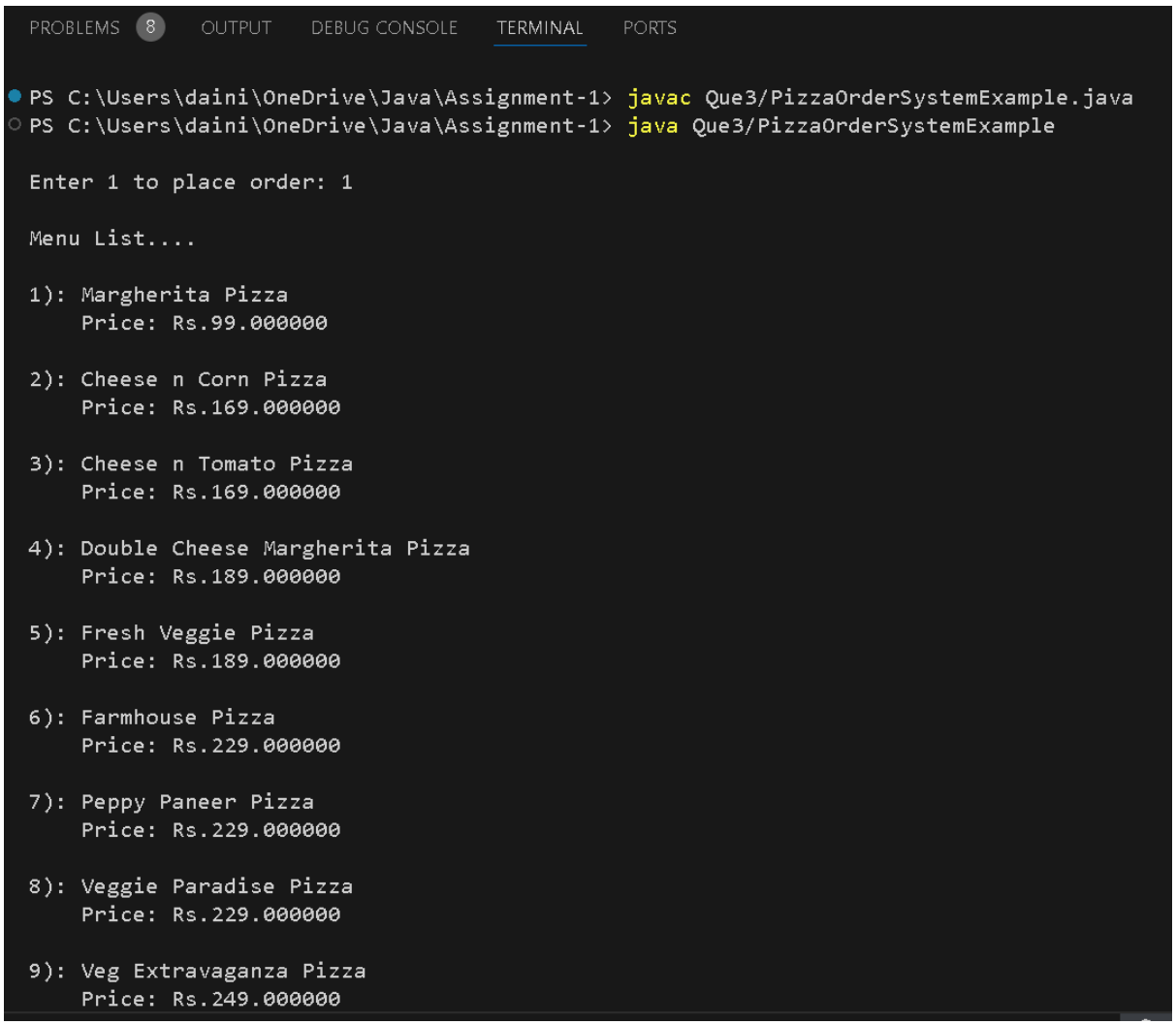
```
Scanner S = new Scanner(System.in);
System.out.print("\nEnter 1 to place order: ");
choice = S.nextInt();

if (choice != 1) {
   return;
}

while (true) {
   switch (choice) {
      case 1:
         printMenus();
         System.out.println("\nPlace your order.....");
         System.out.print("Item Number: ");
         itemNo = S.nextInt();
         System.out.print("No. of Quantities: ");
         quantity = S.nextInt();

         for (int i = 0; i < P.pizzas.length; i++) {
            if (i == (itemNo - 1)) {
               P.placeOrder((String) P.pizzas[i][0], quantity);
            }
         }

         choices();
         System.out.print("\nEnter your choice: ");
```

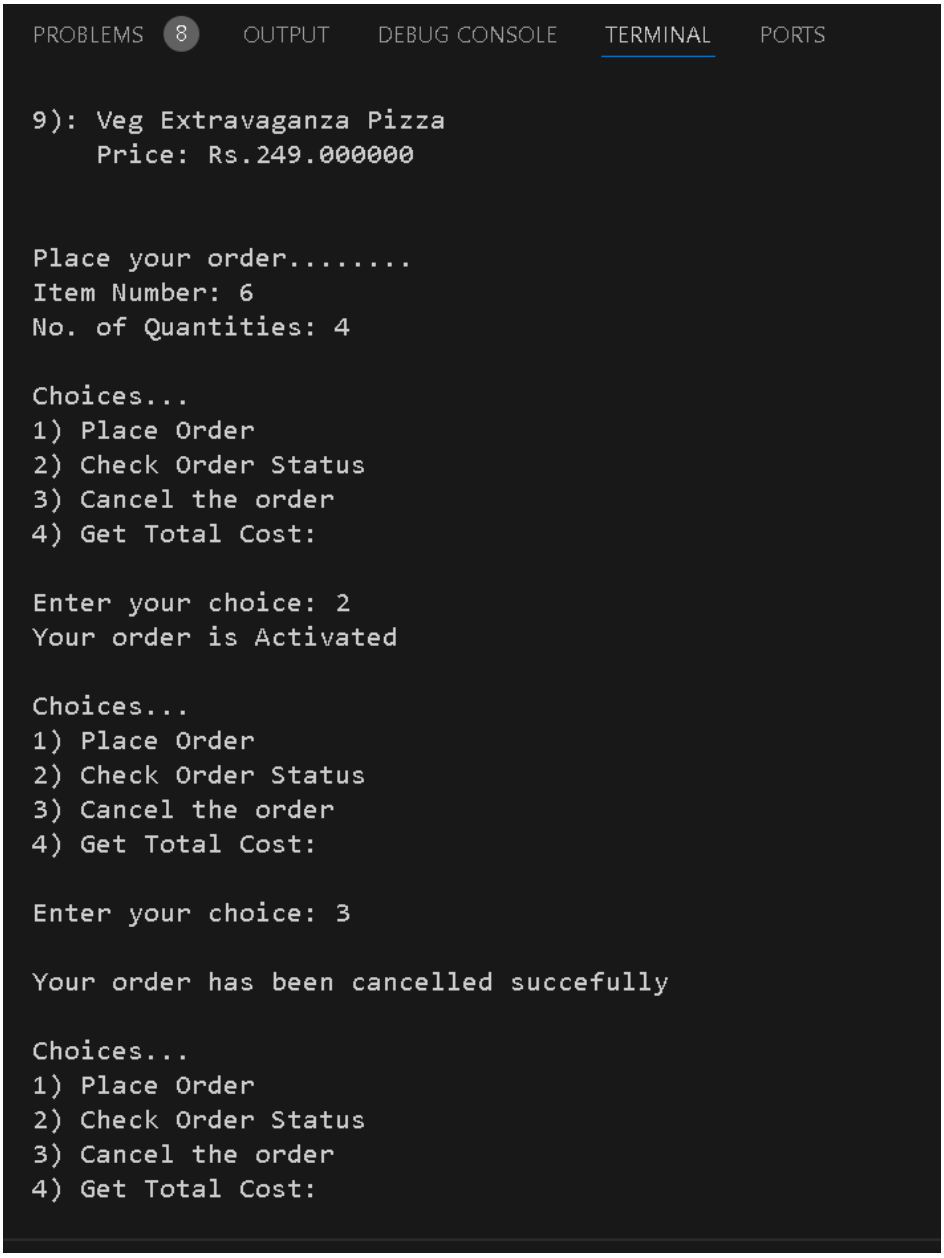
```
            choice = S.nextInt();

            break;

        case 2:
            System.out.println(P.checkOrderStatus(orderId));

            choices();
            System.out.print("\nEnter your choice: ");
            choice = S.nextInt();
            break;

        case 3:
            if (P.cancelOrder(orderId)) {
                System.out.println("\nYour order has been cancelled succefully");
            }

            choices();
            System.out.print("\nEnter your choice: ");
            choice = S.nextInt();
            break;

            case 4:
            if (P.calculateOrderCost(orderId) != 0) {
                System.out.printf("\nYour total payable amount = Rs.%f",
P.calculateOrderCost(orderId));
                System.out.println("\nHave a nice day!");
```

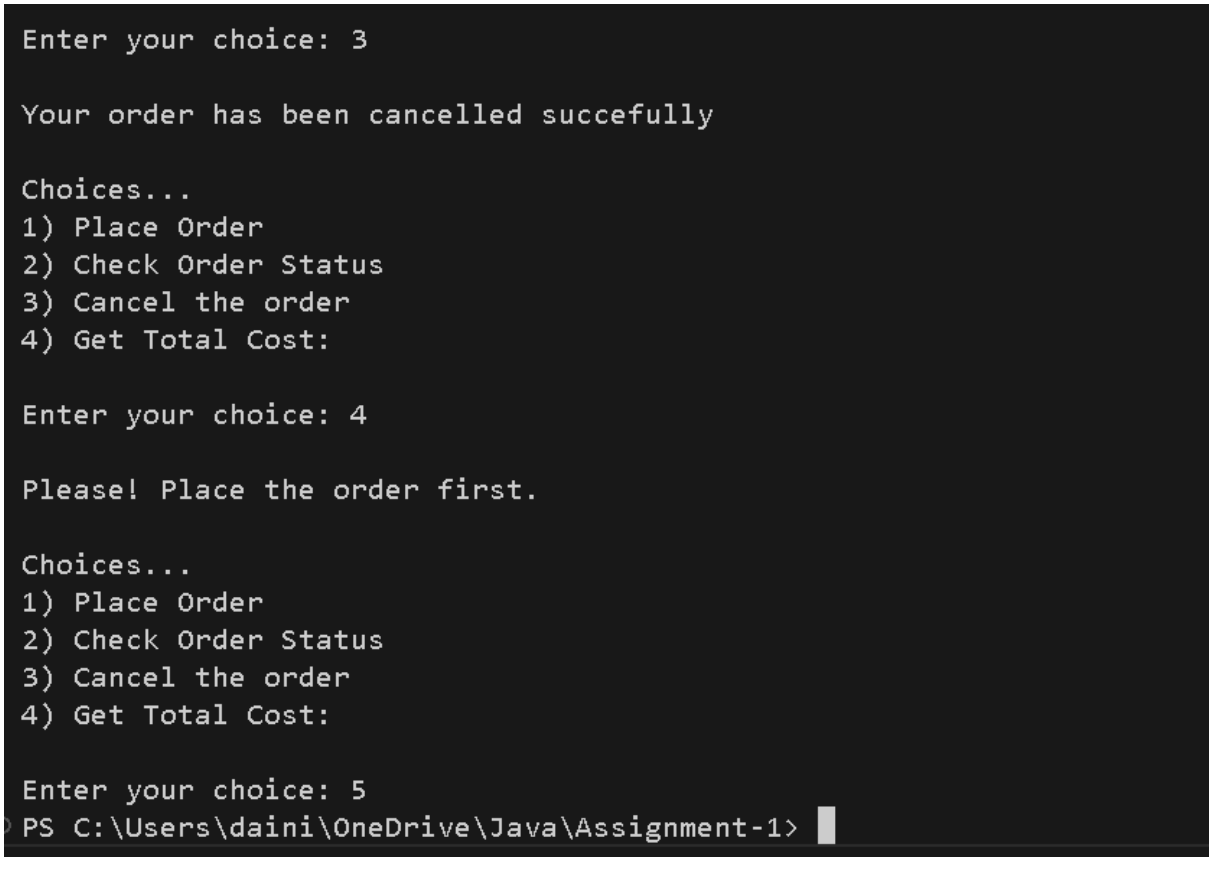
```
                return;
            }
            else {
                System.out.println("\nPlease! Place the order first.");
                choices();
                System.out.print("\nEnter your choice: ");
                choice = S.nextInt();
            }
            break;

        default:
            return;
      }
    }
  }
}
```


PROBLEMS 8
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\daini\OneDrive\Java\Assignment-1> javac Que3/PizzaOrderSystemExample.java
PS C:\Users\daini\OneDrive\Java\Assignment-1> java Que3/PizzaOrderSystemExample
Enter 1 to place order: 1
Menu List....
1): Margherita Pizza
Price: Rs.99.000000
2): Cheese n Corn Pizza
Price: Rs.169.000000
3): Cheese n Tomato Pizza
Price: Rs.169.000000
4): Double Cheese Margherita Pizza
Price: Rs.189.000000
5): Fresh Veggie Pizza
Price: Rs.189.000000
6): Farmhouse Pizza
Price: Rs.229.000000
7): Peppy Paneer Pizza
Price: Rs.229.000000
8): Veggie Paradise Pizza
Price: Rs.229.000000
9): Veg Extravaganza Pizza
Price: Rs.249.000000


PROBLEMS 8
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
8): Veggie Paradise Pizza
Price: Rs.229.000000
9): Veg Extravaganza Pizza
Price: Rs.249.000000
Place your order.....
Item Number: 7
No. of Quantities: 5
Choices...
1) Place Order
2) Check Order Status
3) Cancel the order
4) Get Total Cost:
Enter your choice: 2
Your order is Activated
Choices...
1) Place Order
2) Check Order Status
3) Cancel the order
4) Get Total Cost:
Enter your choice: 4
Your total payable amount = Rs.1145.000000
Have a nice day!
PS C:\Users\daini\OneDrive\Java\Assignment-1>


PROBLEMS 8
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\daini\OneDrive\Java\Assignment-1> javac Que3/PizzaOrderSystemExample.java
PS C:\Users\daini\OneDrive\Java\Assignment-1> java Que3/PizzaOrderSystemExample
Enter 1 to place order: 1
Menu List....
1): Margherita Pizza
Price: Rs.99.000000
2): Cheese n Corn Pizza
Price: Rs.169.000000
3): Cheese n Tomato Pizza
Price: Rs.169.000000
4): Double Cheese Margherita Pizza
Price: Rs.189.000000
5): Fresh Veggie Pizza
Price: Rs.189.000000
6): Farmhouse Pizza
Price: Rs.229.000000
7): Peppy Paneer Pizza
Price: Rs.229.000000
8): Veggie Paradise Pizza
Price: Rs.229.000000
9): Veg Extravaganza Pizza
Price: Rs.249.000000


PROBLEMS 8
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
9): Veg Extravaganza Pizza
Price: Rs.249.000000
Place your order.....
Item Number: 6
No. of Quantities: 4
Choices...
1) Place Order
2) Check Order Status
3) Cancel the order
4) Get Total Cost:
Enter your choice: 2
Your order is Activated
Choices...
1) Place Order
2) Check Order Status
3) Cancel the order
4) Get Total Cost:
Enter your choice: 3
Your order has been cancelled succefully
Choices...
1) Place Order
2) Check Order Status
3) Cancel the order
4) Get Total Cost:


Enter your choice: 3
Your order has been cancelled succefully
Choices...
1) Place Order
2) Check Order Status
3) Cancel the order
4) Get Total Cost:
Enter your choice: 4
Please! Place the order first.
Choices...
1) Place Order
2) Check Order Status
3) Cancel the order
4) Get Total Cost:
Enter your choice: 5
PS C:\Users\daini\OneDrive\Java\Assignment-1>

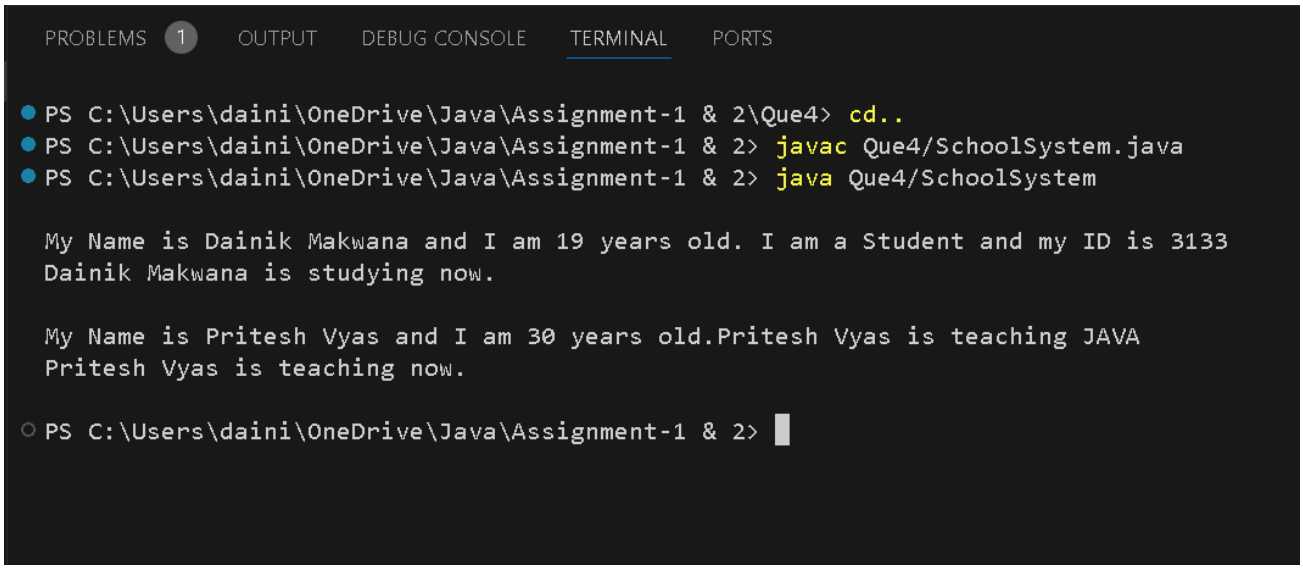
Question-4

```
package Que4;


class Person {
    private String name;
    private int age;

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

    void setAge(int age) {
        if (age > 0) {
            this.age = age;
        } else {
            System.out.println("Please! Enter the valid age");
        }
    }

    String getName() {
        return name;
    }

    int getAge() {
        return age;
    }
```

```
    void introduce() {
        System.out.println("My Name is " + getName() + " and I am " + getAge()+" years old.");
    }
}

class Student extends Person {
    private int studentId;

    void setStudentId(int studentId) {
        this.studentId = studentId;
    }

    int getStudentId() {
        return studentId;
    }

    @Override
    void introduce() {
        System.out.println("\nMy Name is " + getName() + " and I am " + getAge()+" years old. I am a Student and my ID is " + studentId);
    }

    void study() {
        System.out.println(getName()+" is studying now.");
    }
```

```
}

class Teacher extends Person {
   private String subject;

   void setSubject(String subject) {
      this.subject = subject;
   }

   String getSubject() {
      return subject;
   }

   @Override
   void introduce() {
      System.out.println("\nMy Name is " + getName() + " and I am " +
getAge()+" years old."+getName()+" is teaching " + subject);
   }

   void teach() {
      System.out.println(getName()+" is teaching now.\n");
   }
}

class SchoolSystem {
   public static void main(String args[]) {
      Student S = new Student();
```

```
        S.setStudentId(3133);
        S.setName("Dainik Makwana");
        S.setAge(19);
        S.introduce();
        S.study();

        Teacher T = new Teacher();
        T.setName("Pritesh Vyas");
        T.setAge(30);
        T.setSubject("JAVA");
        T.introduce();
        T.teach();
    }
}
```



Question-5

```
package Que5;

class User {
    private String userName , emailId;

    User() {

    }

    User(String userName, String emailId) {
        this.userName = userName;
        this.emailId = emailId;
    }

    String getUserName() {
        return userName;
    }

    String getEmailId() {
        return emailId;
    }
}

class Professor extends User {
    private String department;
```

```
    Professor(String userName, String emailId, String department) {
        super(userName, emailId);
        this.department = department;
    }

    String getDepartment() {
        return department;
    }
}

class Course {
    private int code, creditHours;
    private String name;

    Course(int code, String name, int creditHours) {
        this.code = code;
        this.name = name;
        this.creditHours = creditHours;
    }

    int getCode() {
        return code;
    }

    String getName() {
```

```
        return name;
    }

    int getCreditHours() {
        return creditHours;
    }
}

class Department {
    String name, professor1,course1;

    Department(String name) {
        this.name = name;
    }

    void setProfessor1(String professor1) {
        this.professor1 = professor1;
    }

    void setCourse1(String course1) {
        this.course1 = course1;
    }
}

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

```
        Professor P = new Professor("Hitesh Sir", "hitesh123@gmail.com",
"Computer Science");
        Course C = new Course(31, "Int. M.Sc.(CA & IT)", 8);

        Department D = new Department("Programming");
        D.setProfessor1("Pritesh Vyas");
        D.setCourse1("JAVA Development");

        System.out.println("\n\nDetails about Professor");
        System.out.printf("\tProfessor Name: %s",P.getUserName());
        System.out.printf("\n\tProfessor Email ID: %s",P.getEmailId());
        System.out.printf("\n\tDepartment: %s",P.getDepartment());

        System.out.println("\n\nDetails about Course");
        System.out.printf("\tCode: %d\n",C.getCode());
        System.out.printf("\tName: %s\n",C.getName());
        System.out.printf("\tCredit Hours: %d\n",C.getCreditHours());
    }
}
```

```
PROBLEMS 8   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

Output (Ctrl+Shift+U)
PS C:\Users\daini\OneDrive\Java\Assignment-1> javac Que5/UniversityDepartment.java
error: file not found: Que5\UniversityDepartment.java
Usage: javac <options> <source files>
use --help for a list of possible options
PS C:\Users\daini\OneDrive\Java\Assignment-1> javac Que5/UniversityDepartmentSystem.java
PS C:\Users\daini\OneDrive\Java\Assignment-1> java Que5/UniversityDepartmentSystem


Details about Professor
        Professor Name: Hitesh Sir
        Professor Email ID: hitesh123@gmail.com
        Department: Computer Science

Details about Course
        Code: 31
        Name: Int. M.Sc.(CA & IT)
        Credit Hours: 8
PS C:\Users\daini\OneDrive\Java\Assignment-1>
```

Question-6

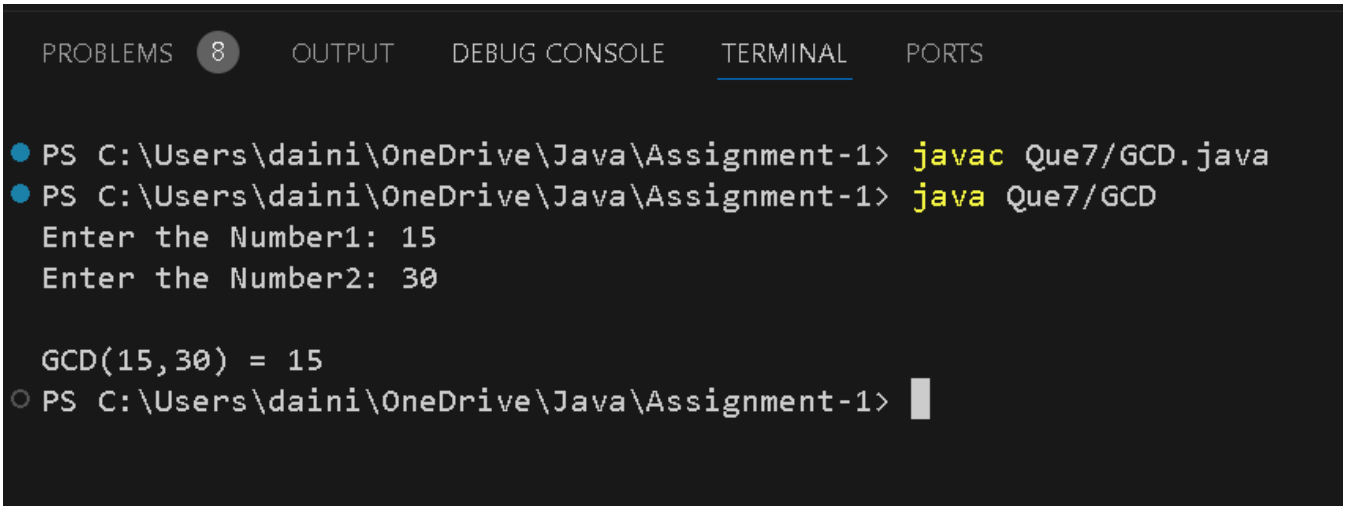
```
package Que6;


class Pattern {
    public static void main(String args[]) {
        int k = 8;


        for (int i = 1; i < 7; i++) {
            for (int j = 1; j < 7; j++) {
                if (j > i) {
                    System.out.print(" " + (k - i));
                } else {
                    System.out.print(" " + (k - j));
                }
            }
            for (int j = 7; j >0; j--) {
                if (j > i) {
                    System.out.print(" " + (k - i));
                } else {
                    System.out.print(" " + (k - j));
                }
            }
            System.out.println("");
        }


        k = 8;
```

```
        for (int i = 7; i >0; i--) {
            for (int j = 1; j < 7; j++) {
                if (j > i) {
                    System.out.print(" " + (k - i));
                } else {
                    System.out.print(" " + (k - j));
                }
            }
            for (int j = 7; j >0; j--) {
                if (j > i) {
                    System.out.print(" " + (k - i));
                } else {
                    System.out.print(" " + (k - j));
                }
            }
            System.out.println("");
        }
    }
}
```

```
PROBLEMS 8   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

PS C:\Users\daini\OneDrive\Java\Assignment-1> javac Que6/Pattern.java
PS C:\Users\daini\OneDrive\Java\Assignment-1> java Que6/Pattern
 7 7 7 7 7 7 7 7 7 7 7 7 7
 7 6 6 6 6 6 6 6 6 6 6 6 7
 7 6 5 5 5 5 5 5 5 5 5 6 7
 7 6 5 4 4 4 4 4 4 4 5 6 7
 7 6 5 4 3 3 3 3 3 4 5 6 7
 7 6 5 4 3 2 2 2 3 4 5 6 7
 7 6 5 4 3 2 1 2 3 4 5 6 7
 7 6 5 4 3 2 2 2 3 4 5 6 7
 7 6 5 4 3 3 3 3 3 4 5 6 7
 7 6 5 4 4 4 4 4 4 4 5 6 7
 7 6 5 5 5 5 5 5 5 5 5 6 7
 7 6 6 6 6 6 6 6 6 6 6 6 7
 7 7 7 7 7 7 7 7 7 7 7 7 7
PS C:\Users\daini\OneDrive\Java\Assignment-1>
```

Question-7

```
package Que7;
import java.util.*;

class GCD {
   public static void main(String args[]) {
      int num1, num2;
      Scanner S = new Scanner(System.in);
      System.out.print("Enter the Number1: ");
      num1 = S.nextInt();
      System.out.print("Enter the Number2: ");
      num2 = S.nextInt();

      int n1 = num1, n2 = num2;
      int gcd = 1;

      for (int i = 2; i < 10; i++) {
         while (n1 % i == 0 && n2 % i == 0) {
            n1 /= i;
            n2 /= i;
            gcd *= i;
         }
      }
      System.out.printf("\nGCD(%d,%d) = %d", num1, num2, gcd);
   }
}
```



Question-8

```
package Que8;

class AddMatrix {
    public static void main(String args[]) {
        int[][] matrix1 = {{1, 2, 3}, {4, 5, 6}, {7, 8, 9}};
        int[][] matrix2 = {{9, 8, 7}, {6, 5, 4}, {3, 2, 1}};

        int[][] matrixSum = new int[3][3];

        for (int i = 0; i < 3; i++) {
            for (int j = 0; j < 3; j++) {
                matrixSum[i][j] = matrix1[i][j] + matrix2[i][j];
            }
        }

        System.out.println("\nMatrix1\t\tMatrix2");
```

```
        for (int i = 0; i < 3; i++) {
            for (int j = 0; j < 3; j++) {
                System.out.print(" "+matrix1[i][j]);
            }
            System.out.print("\t\t");
            for (int j = 0; j < 3; j++) {
                System.out.print(" "+matrix2[i][j]);
            }
            System.out.println("");
        }

        System.out.println("\nSum of the Matrix1 & Matrix2...");
        for (int i = 0; i < 3; i++) {
            for (int j = 0; j < 3; j++) {
                System.out.print(" "+matrixSum[i][j]);
            }
            System.out.println("");
        }
    }
}
```

```
PROBLEMS 8   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

PS C:\Users\daini\OneDrive\Java\Assignment-1> javac Que8/AddMatrix.java
PS C:\Users\daini\OneDrive\Java\Assignment-1> java Que8/AddMatrix

 Matrix1         Matrix2
  1 2 3           9 8 7
  4 5 6           6 5 4
  7 8 9           3 2 1

 Sum of the Matrix1 & Matrix2...
  10 10 10
  10 10 10
  10 10 10
PS C:\Users\daini\OneDrive\Java\Assignment-1>
```

Question-9

```
package Que9;

import java.util.*;

class Prime {

   boolean checkPrime(int num, int count) {
      if(count==1)
      {
         return true;
      }
      return (num%count==0)?false:checkPrime(num,count-1);
   }

   public static void main(String rags[]) {
      Prime P = new Prime();

      Scanner S = new Scanner(System.in);
      System.out.print("Enter the Number: ");
      int num = S.nextInt();

      int count = (int) Math.sqrt(num);

      if (P.checkPrime(num, count)) {
         System.out.printf("\n%d is a Prime number.", num);
```

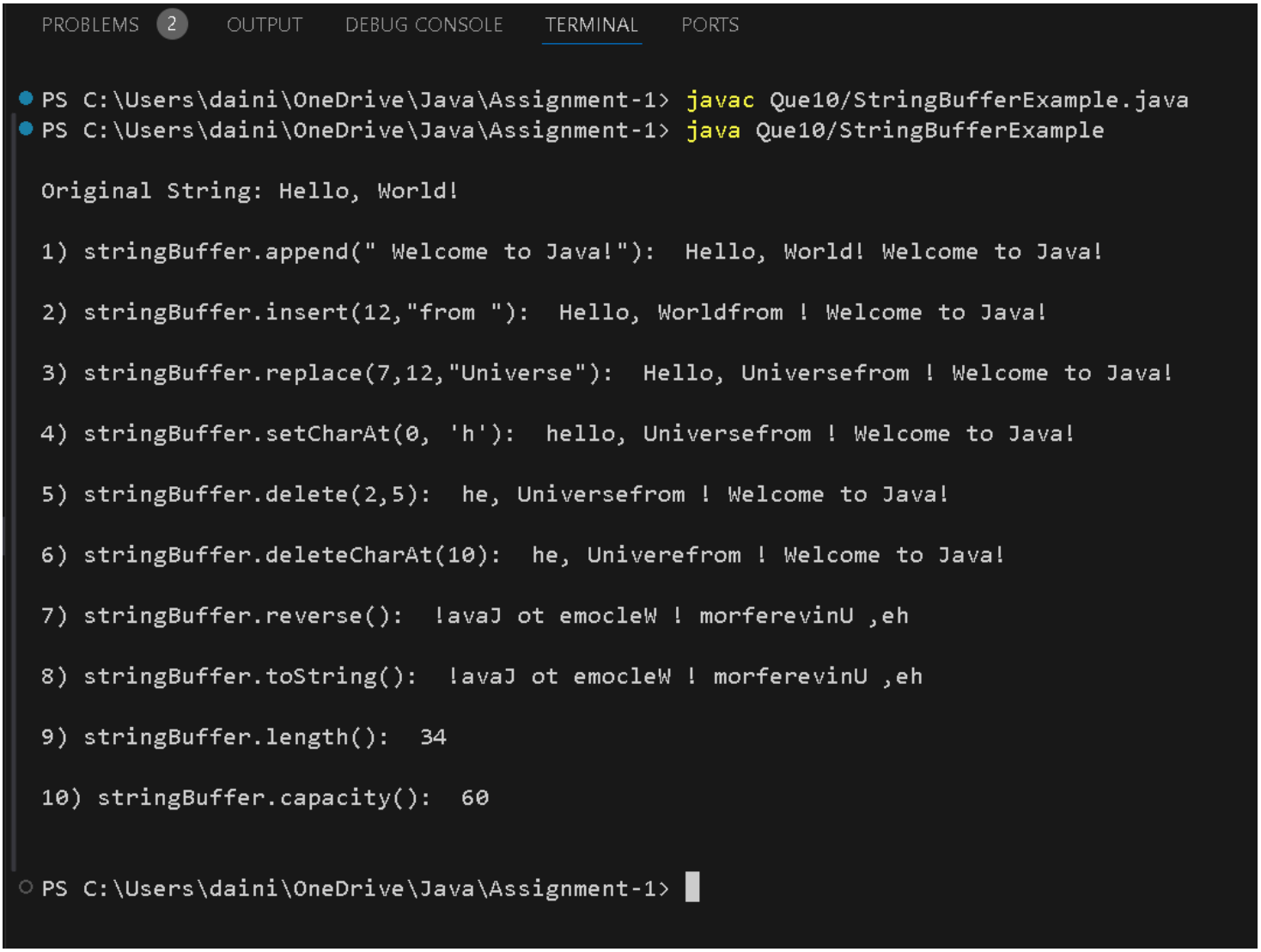
```
        } else {
            System.out.printf("\n%d is not a Prime number.", num);
        }
    }
}
```

```
PROBLEMS 7  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\daini\OneDrive\Java\Assignment-1 & 2> javac Que9/Prime.java
PS C:\Users\daini\OneDrive\Java\Assignment-1 & 2> java Que9/Prime
Enter the Number: 5

5 is a Prime number.
PS C:\Users\daini\OneDrive\Java\Assignment-1 & 2> java Que9/Prime
Enter the Number: 10

10 is not a Prime number.
PS C:\Users\daini\OneDrive\Java\Assignment-1 & 2> java Que9/Prime
Enter the Number: 15

15 is not a Prime number.
PS C:\Users\daini\OneDrive\Java\Assignment-1 & 2> java Que9/Prime
Enter the Number: 2

2 is a Prime number.
PS C:\Users\daini\OneDrive\Java\Assignment-1 & 2> java Que9/Prime
Enter the Number: 3

3 is a Prime number.
PS C:\Users\daini\OneDrive\Java\Assignment-1 & 2> java Que9/Prime
Enter the Number: 4

4 is not a Prime number.
PS C:\Users\daini\OneDrive\Java\Assignment-1 & 2>
```

Question-10

```
package Que10;


class StringBufferExample {
   public static void main(String args[])
   {
      StringBuffer stringBuffer = new StringBuffer("Hello, World!");
      System.out.println("\nOriginal String: "+stringBuffer);

      //! append Method
      System.out.println("\n1) stringBuffer.append(\" Welcome to
Java!\"):  "+stringBuffer.append(" Welcome to Java!"));

      //! insert Method
      System.out.println("\n2) stringBuffer.insert(12,\"from
\"):  "+stringBuffer.insert(12, "from "));

      //! replace Method
      System.out.println("\n3)
stringBuffer.replace(7,12,\"Universe\"):  "+stringBuffer.replace(7, 12,
"Universe"));

      //! setCharAt Method
      stringBuffer.setCharAt(0, 'h'); //* It not returns any value */
      System.out.println("\n4) stringBuffer.setCharAt(0, 'h'):  "+stringBuffer);

      //! delete Method
```

```
        System.out.println("\n5) stringBuffer.delete(2,5):  "+stringBuffer.delete(2,
5));


        //! deleteCharAt()
        System.out.println("\n6)
stringBuffer.deleteCharAt(10):  "+stringBuffer.deleteCharAt(10));


        //! reverse Method
        System.out.println("\n7) stringBuffer.reverse():  "+stringBuffer.reverse());


        //! toString Method
        System.out.println("\n8) stringBuffer.toString():  "+stringBuffer.toString());


        //! length Method
        System.out.println("\n9) stringBuffer.length():  "+stringBuffer.length());


        //! length Method
        System.out.println("\n10)
stringBuffer.capacity():  "+stringBuffer.capacity()+"\n\n");
    }
}
```


PROBLEMS 2
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\daini\OneDrive\Java\Assignment-1> javac Que10/StringBufferExample.java
PS C:\Users\daini\OneDrive\Java\Assignment-1> java Que10/StringBufferExample
Original String: Hello, World!
1) stringBuffer.append(" Welcome to Java!"): Hello, World! Welcome to Java!
2) stringBuffer.insert(12,"from "): Hello, Worldfrom ! Welcome to Java!
3) stringBuffer.replace(7,12,"Universe"): Hello, Universefrom ! Welcome to Java!
4) stringBuffer.setCharAt(0, 'h'): hello, Universefrom ! Welcome to Java!
5) stringBuffer.delete(2,5): he, Universefrom ! Welcome to Java!
6) stringBuffer.deleteCharAt(10): he, Univerefrom ! Welcome to Java!
7) stringBuffer.reverse(): !avaJ ot emocleW ! morferevinU ,eh
8) stringBuffer.toString(): !avaJ ot emocleW ! morferevinU ,eh
9) stringBuffer.length(): 34
10) stringBuffer.capacity(): 60
PS C:\Users\daini\OneDrive\Java\Assignment-1>