***PROG5121*_2021_BCA1_VCSD4**
Bekithemba Matshazi
20128862
Assignment 1
Due date 03 June
Meera Joseph

QUESTION 1

```
package store;
//import packages
import java.util.*;
public class CustomerPurchases
{

   // variable declarations
        private int customerNumber;
        private int quantity;
        private String firstName, surname, product;
     double price;

     //customer purchase class
        public CustomerPurchases(String firstname1, String surname1, String product1, double
price1, int quantity1, int cusNum)
     {
                firstName = firstname1;
                surname = surname1;
                product = product1;
                price = price1;
                quantity = quantity1;
                customerNumber = cusNum;
        }

     //setters and getters
        public int getCustomerNumber()
     {
                return customerNumber;
        }


        public void setCustomerNumber(int customerNumber)
     {
                this.customerNumber = customerNumber;
        }


        public int getQuantity()
     {
                return quantity;
        }
```

```
    public void setQuantity(int quantity)
{
        this.quantity = quantity;
    }


    public String getFirstName()
{
        return firstName;
    }


    public void setFirstName(String firstName)
{
        this.firstName = firstName;
    }


    public String getSurname()
{
        return surname;
    }


    public void setSurname(String surname)
{
        this.surname = surname;
    }


    public String getProduct()
{
        return product;
    }


    public void setProduct(String product)
{
        this.product = product;
    }


    public double getPrice()
{
        return price;
```

```
    }


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

//printing class
static class Printing
{
  //printing invoice method
  public static void printlnDetails(CustomerPurchases temp)
  {
    //invoice informationn to be printed
    System.out.println("");
    System.out.println("CUSTOMER INVOICE");
    System.out.println("*******************************");
    System.out.println("CUSTOMER NUMBER:    " + temp.getCustomerNumber());
    System.out.println("CUSTOMER FIRST NAME: " + temp.getFirstName());
    System.out.println("CUSTOMER SURNAME:   " + temp.getSurname());
    System.out.println("PRODUCT:            " + temp.getProduct());
    System.out.println("PRICE:             R" + String.format("%.2f", temp.getPrice()));
    System.out.println("QUANTITY:           " + temp.getQuantity());
    System.out.println("*******************************");
  }
  //purchase report method
  public static void customerPurchaseReport(CustomerPurchases temp)
  {
    //declaring constansts
    double tax = 0.15 ;
     double discount = 0.10;
      double commission = 0.085;

    //main calculations
    double Tcost= temp.getQuantity()*temp.getPrice();
     double discountT =Tcost*discount;
     double comission1 = Tcost *commission;
      double tax1 = (Tcost)*tax;
       double final1 =  (Tcost+tax1)- (discountT+ comission1);

       //customer report
        System.out.println("");
        System.out.println("CUSTOMER PURCHASE REPORT");
        System.out.println("*******************************");
```

```
            System.out.println("PRODUCT PRICE:    R" + String.format("%.2f",Tcost));
            System.out.println("TAX:              R" + String.format("%.2f",tax1));
            System.out.println("COMMISSION:       R" + String.format("%.2f",comission1));
            System.out.println("DISCOUNT:         R" + String.format("%.2f",Tcost*discount));
            System.out.println("TOTAL:            R" + String.format("%.2f",final1));
            System.out.println("*******************************");
            System.out.println("Application Complete");
        }
    }

 //main
public static void main(String[] args)
{
    //Scanner decaratiion
    Scanner Input = new Scanner(System.in);

    //customer nummber
     System.out.print("Enter the customer number >> ");
      String Cus_num = Input.nextLine();
       int Customer_Num = Integer.parseInt(Cus_num);

   //name
     System.out.print("Enter the Customer first name >> ");
      String Frist_Name = Input.nextLine();

    //Surname
     System.out.print("Enter the Customer Surname >> ");
      String Sur_Name = Input.nextLine();

    //Product
     System.out.print("Enter the product >> ");
      String Pro_Name = Input.nextLine();

    //price
     System.out.print("Enter the product price >> ");
      String Price = Input.nextLine();
       int Price_num = Integer.parseInt(Price);

    //quantity
       System.out.print("Enter the quantity required >> ");
        String quan1 = Input.nextLine();
         int quantity = Integer.parseInt(quan1);

       // construtor
```

```
    CustomerPurchases finale = new CustomerPurchases(Frist_Name, Sur_Name, Pro_Name,
Price_num, quantity, Customer_Num);

    //call for printing method
    Printing.printlnDetails(finale);

    //customer  purchases printing prompt
      System.out.print("\nWould you like to view your product purchace report?  Enter (1) to view
the purchase report or any other number to exit: ");
       String Pro1 = Input.nextLine();
       int Prompt1 = Integer.parseInt(Pro1);


       //conditional statement
       if(Prompt1 ==1)
       {
          Printing.customerPurchaseReport(finale);
       }
        else
       {
          System.out.println("Thank you for your time");
       }
  }
}//end of program
```

QUESTION 1 OUTPUT

```
run:
Enter the customer number >> 10111
Enter the Customer first name >> Alex
Enter the Customer Surname >> Joes
Enter the product >> Guiter
Enter the product price >> 5000
Enter the quantity required >> 2

CUSTOMER INVOICE
******************************
CUSTOMER NUMBER:     10111
CUSTOMER FIRST NAME: Alex
CUSTOMER SURNAME:    Joes
PRODUCT:             Guiter
PRICE:               R5000,00
QUANTITY:            2
******************************

Would you like to view your product purchace report?  Enter (1) to view the pirchase report or any other number to exit: 1

CUSTOMER PURCHASE REPORT
******************************
PRODUCT PRICE:    R10000,00
TAX:              R1350,00
COMMISSION:       R850,00
DISCOUNT:         R1000,00
TOTAL:            R10350,00
******************************
BUILD SUCCESSFUL (total time: 31 seconds)
```

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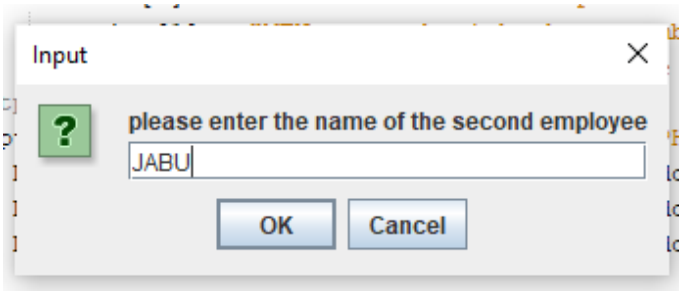
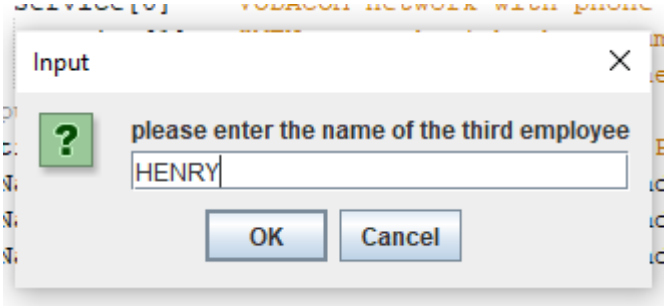
QUESTION 2

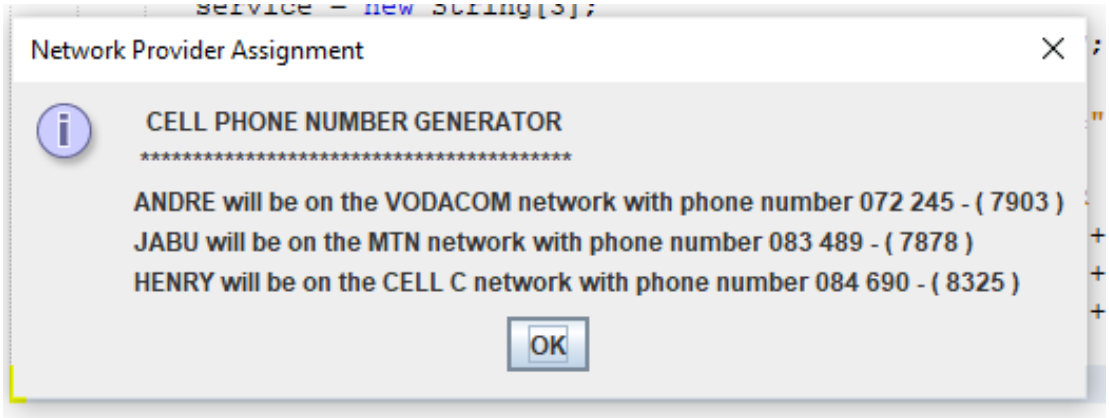
```
package randomallocate;


//importing of packages
import javax.swing.JOptionPane;
import java.util.*;

public class RandomAllocate
{
   public static void main(String []args)
   {
   //user Input
   String Name_A = JOptionPane.showInputDialog("please enter the name of the first employee");
    String Name_B = JOptionPane.showInputDialog("please enter the name of the second
employee");
     String Name_C = JOptionPane.showInputDialog("please enter the name of the third employee");

         //random 8 digit generation
           Random rnd = new Random();
        //3 digit number random genarator
       int n1 = 100 + rnd.nextInt(899);
       int n2 = 100 + rnd.nextInt(899);
       int n3 = 100 + rnd.nextInt(899);

       //4 digit number random genarator
       int n4 = 1000 + rnd.nextInt(8999);
       int n5 = 1000 + rnd.nextInt(8999);
       int n6 = 1000 + rnd.nextInt(8999);

       //random value genarator to use to randomly call a random position in providers array
       int random = (int) (Math.random()*3);
       int random1 = (int) (Math.random()*3);
       int random2 = (int) (Math.random()*3);

        //random service provider
         String[]service;
          service = new String[3];
           service[0] = "VODACOM network with phone number 072";
            service[1] = "MTN network with phone number 083";
             service[2] = "CELL C network with phone number 084";

     //Output to user
      JOptionPane.showMessageDialog(null, "  CELL PHONE NUMBER GENERATOR \n
************************************** \n"
```

```
        + Name_A + " will be on the " + service[random]  + " " + n1 + " - ( " + n4 + " )" + "\n"
        + Name_B + " will be on the " + service[random1] + " " +  n2 + " - ( " + n5 + " )" + "\n"
        + Name_C + " will be on the " + service[random2] + " " +  n3 + " - ( " + n6 + " )","Network
Provider Assignment",JOptionPane.INFORMATION_MESSAGE);
    }
}//end of program
```

QUESTION 2 OUTPUT







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QUESTION 3

```
package course;

import javax.swing.*;
import java.text.SimpleDateFormat;
import java.util.*;

public class Course
{

  //declaration
      String course_name;
      String Lec_name;
      int stu_num;

//get and set variables
    public String getCourse_name()
      {
         return course_name;
      }

    public void setCourse_name(String course_name)
      {
         this.course_name = course_name;
      }

    public String getLec_name()
      {
         return Lec_name;
      }

    public void setLec_name(String lec_name)
      {
         Lec_name = lec_name;
      }

    public int getStu_num()
      {
         return stu_num;
      }

    public void setStu_num(int stu_num)
```

```
      {
         this.stu_num = stu_num;
      }
   //random venue method
      public static int Assign_Venue()
      {
         Random rnd = new Random();
         int n1 = 1 + rnd.nextInt(3);
         return n1;
      }
     //main
public static void main(String []args)
 {



        //date method
        Date date = new Date();
        SimpleDateFormat formatter = new SimpleDateFormat("yyyy-MM-dd HH:mm:ss");


  //display class
  class display
 {

     // displaying method
  public void show()
        {
           //while loop to either continue or close application
           String string3 = "";
           String string1 = "y";
     while (!string1.equals(string3))
        {
           //calling vaue method
           Course room = new Course();
           int venue =  room.Assign_Venue();

              String op;
              int Option;
           //selection of course
              op = JOptionPane.showInputDialog(null, "Select from the following to veiw the course
details: \n 1) DISD \n 2) DIWD \n 3) DIDM");
              Option = Integer.parseInt(op);
```

```
//if statements to output
if(Option == 1)
{

   Course no = new Course();
   no.setCourse_name("Diploma in Software Development");
   no.setLec_name("Mr Jones");
   no.setStu_num(35);

   System.out.println("COURSE REPORT - " + formatter.format(date) +
   "\n**************************************" +
   "\nCOURSE:          " + no.course_name +
   "\nSTUDENT NUMBER:    " + no.stu_num +
   "\nLECTURER:         " + no.Lec_name +
   "\nVENUE:           " + "venue " + venue +
   "\n**************************************");
}

if(Option == 2)
{
   Course no = new Course();
   no.setCourse_name("Diploma in Web Development");
   no.setLec_name("Mrs Smith");
   no.setStu_num(28);

   System.out.println("COURSE REPORT - " + formatter.format(date) +
   "\n**************************************" +
   "\nCOURSE:          " + no.course_name +
   "\nSTUDENT NUMBER:    " + no.stu_num +
   "\nLECTURER:         " + no.Lec_name +
   "\nVENUE:           " + "venue " + venue +
   "\n**************************************");
}
if(Option == 3)
{
   Course no = new Course();
   no.setCourse_name("Diploma in Data Metrics");
   no.setLec_name("Mr Ntsinga");
   no.setStu_num(39);

   System.out.println("COURSE REPORT - " + formatter.format(date) +
   "\n**************************************" +
   "\nCOURSE:          " + no.course_name +
   "\nSTUDENT NUMBER:    " + no.stu_num +
   "\nLECTURER:         " + no.Lec_name +
```

```
            "\nVENUE:           " + "venue " + venue +
            "\n*****************************************");
        }
        string3 = JOptionPane.showInputDialog(null,"Would you like to exit the application? Ender
(y) to use exit or any other key to continue.");

      }
    }
        }
        //display function
        display displayObj = new display();
        displayObj.show();
  }
}
```

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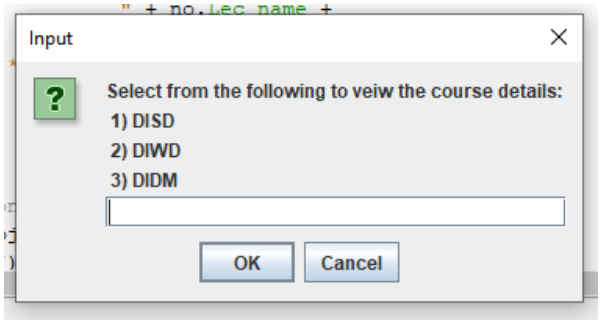
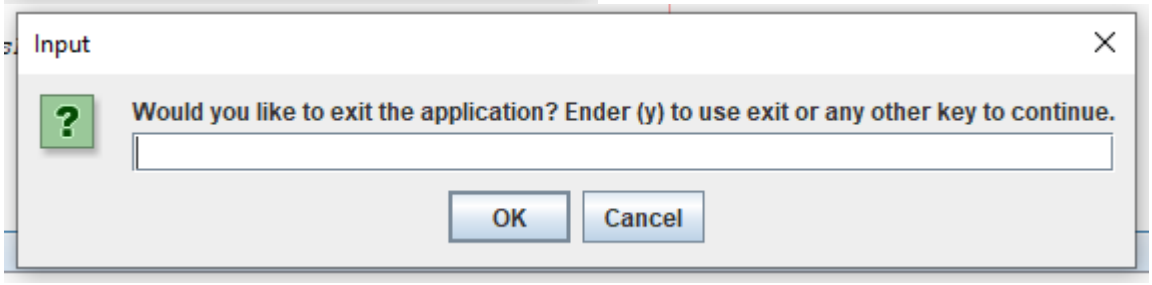
QUESTION 3 OUTPUT






```
run:
COURSE REPORT - 2021-05-09 21:53:26
*****************************************
COURSE:             Diploma in Software Development
STUDENT NUMBER:     35
LECTURER:           Mr Jones
VENUE:              venue: 3
*****************************************
BUILD SUCCESSFUL (total time: 7 seconds)
```

```
run:
COURSE REPORT - 2021-05-09 21:55:11
*****************************************
COURSE:             Diploma in Web Development
STUDENT NUMBER:     28
LECTURER:           Mrs Smith
VENUE:              venue 2
*****************************************
BUILD SUCCESSFUL (total time: 3 seconds)
```

```
run:
COURSE REPORT - 2021-05-09 21:55:46
*****************************************
COURSE:             Diploma in Data Metrics
STUDENT NUMBER:     39
LECTURER:           Mr Ntsinga
VENUE:              venue: 2
*****************************************
BUILD SUCCESSFUL (total time: 4 seconds)
```

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References

Joyce, F. 2018. *Java Programming, Loose-Leaf Version.* 9th ed. Boston: Joyce farrell.

W3schools.com. n.d. *Java Tutorial*. [online] Available at: https://www.w3schools.com/java/ [Accessed 4 April 2021].