

**K L UNIVERSITY**  
**FRESHMAN ENGINEERING DEPARTMENT**  
**A Project-Based Lab Report**  
**On**  
**BILL NOTIFICATION SYSTEM**

**SUBMITTED BY:**

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## DEPARTMENT OF BASIC ENGINEERING SCIENCES-I



This is to certify that the project based laboratory report entitled “OP Registration “submitted by **K.VENKAT,K.SRAVANI,J.MANO HAR RAJ , K.TRISHITHA** bearing Reg Id.No. **2000030439, 2000030428, 2000030472, 2000030378** to the Department of Basic Engineering Sciences, KL University in partial fulfillment of the requirements for the completion of a project in “Data Structures-19CS1202” course in I B Tech II Semester, is a bonafide record of the work carried out by him/her under my supervision during the academic year 2020-21.

PROJECT SUPERVISOR  
T.YAMINI

HEAD OF THE DEPARTMENT  
**Dr. D.Haritha**

## ACKNOWLEDGEMENTS

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accomplishing the project based laboratory report.

I express the sincere gratitude to our director **Dr. A Jagadeesh** for his administration towards our academic growth.

I express sincere gratitude to our Coordinator and HOD-BES **Dr. D.Haritha** for

her leadership and constant motivation provided in successful completion of our

academic semester. I record it as my privilege to deeply thank for providing us the

efficient faculty and facilities to make our ideas into reality.

I express my sincere thanks to our project supervisor **T.YAMINI** for her novel

association of ideas, encouragement, appreciation and intellectual zeal which motivated us to venture this project successfully. Finally, it is pleased to acknowledge the indebtedness to all those who devoted themselves directly or indirectly to make this project report success.

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### NAME

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# **ABSTRACT**

## **Title: Bill Notification System**

In this given project, we are asked to design a bill notification system which accepts the data from user about what was the name of the user, bill amount to be paid, date on which they have to be reminded, mobile number for contact purpose. The user will be reminded about the due dates and the amount to be paid through SMS format. To do this, we are going to use

- Priority Queues
- Conditional Statements
- Calendars
- Structures, pointers
- Input and output statements

The project is made for easy interaction and for friendly mode of communication for the users to get used to it.

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## INTRODUCTION

Bill Notification. Bill Reminder incorporates a powerful bill notification system to make sure you always know when bills are due, so you can manage your finances more effectively. Reminders of selected bills are displayed in a simple notification window to ensure you always have a clear idea of what needs paying. Quick Search. Bill Reminder makes it simple to check for upcoming bills so you can keep on top of your finance. Search for bills on a particular date, by their name, and identify all bills within a particular time period. Bill Scheduler. Repeating monthly, quarterly or yearly bills? Bill Reminder can handle them all with an easy to use bill scheduler. Custom Notification Period. Manage how and when you are notified about bills. Bill Reminder lets you set how much prior notice you should be given for each bill. By default, you will receive a notification each time you turn on your computer and each day leading up to a due bill. Quickly change reminder settings from the notification window to postpone reminders until closer to the time

## **AIM**

The main aim of this project is to implement bill notification system, which alerts the user to pay the bill based on its due date. There are three modules in this project

- ❖ Creating priority queue of bills
- ❖ Managing priority of bills based on due date
- ❖ User alerts

### **Advantages :**

It helps you make a professional approach towards the payment overdue and bills that are yet to be paid. And you will not miss out on any bill as it gets as easy as going through your messenger account as the notifications or system-generated messages about the bill being paid are updated. before the due date.

### **Disadvantages :**

During emergencies in a particular area, transmitting an immense volume of SMS alerts can congest a cell tower covering the said location. This can lead to congestion problems which can prevent vital information from being transmitted. Moreover, it is difficult to target users by location by SMS, and third, there can be difficulties on the part of the recipient to authenticate a text message.

### **Future Implementations :**

The code will be made for more effective use and make it easier for the end consumers to get attracted to it.

# SYSTEM REQUIREMENTS

## ➤ SOFTWARE REQUIREMENTS:

The major software requirements of the project are as follows:

Language : Java  
Operating system : Windows XP or later.  
Software : Eclipse IDE

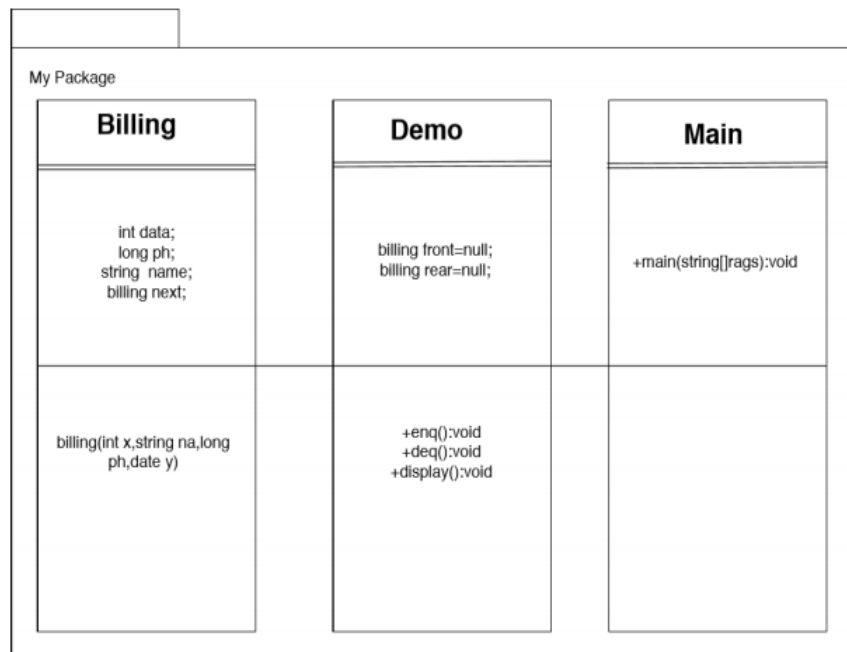
## ➤ HARDWARE REQUIREMENTS:

The hardware requirements that map towards the software are as follows:

RAM : Any RAM above 4 GB is compatible

Processor : Processor above 8<sup>th</sup> generation with i5 or i7 or i3 is good to use.

# CLASS DIAGRAM





## IMPLEMENTATION

### Class 01 :

```
package DS_Project;
import java.util.*;
public class Billing
{
    int data; long ph;
    String name;
    Date priority;
    Billing next;
    Billing(int x,String na,long ph,Date y)
    {
        data=x;
        name=na;
        priority=y; next=null;
        this.ph=ph;
    }
}
```

### Class 02 :

```
package DS_Project;

import java.util.Calendar;
import java.util.GregorianCalendar;
import java.util.Scanner;

public class Implement
{
    Billing front=null;
    Billing rear=null;
    public void enq()
    {
        Scanner sc=new Scanner(System.in);
        System.out.print("Enter bill amount :");
        int a=sc.nextInt();
        System.out.print("Please enter the name of customer : ");
        String na=sc.next();
        System.out.print("Enter mobile number : ");
        long ph=sc.nextLong();
        System.out.print("Enter due date in format of yyyy/mm-
1/dd : ");
    }
}
```

```

        Calendar c=new
GregorianCalendar(sc.nextInt(),sc.nextInt(),sc.nextInt());
        Billing newnode=new Billing(a,na,ph,c.getTime());
        if(front==null&&rear==null)
        {
            front=newnode;
            rear=newnode;
        }
        else if((front.priority).compareTo(newnode.priority)<0)
        {
            rear.next=newnode;
            rear=newnode;
        }
        else if((front.priority).compareTo(newnode.priority)>0)
        {
            newnode.next=front; front=newnode;
        }
        else
        {
            rear.next=newnode; rear=newnode;
        }
    }

    public void deq()
    {
        Calendar g=Calendar.getInstance();
        System.out.println("Dear customer, "+front.name+"
please pay your bill amount Rs:"+front.data+"/- "+" immediately
before "+front.priority+"\n"+ " thankyou \n");
        if(front==null&&rear==null)
        {
            System.out.println("no bills recorded");
        }
        else if(front==rear)
        {
            front=null;
            rear=null;
        }
        else
            front=front.next;
    }

    public void display()
    {
        if(front==null)
            System.out.println("No bills recorded");
        else
        {
            Billing temp=front;
            while(temp!=null)

```

```

        {

            System.out.println("Name="+temp.name+"\n"+"Bill
amount="+temp.data+"\n"+"Due
date="+temp.priority+"\n"+"mobile="+temp.ph);
            temp=temp.next;

        }

    }

}

```

### Class 03 :

```

package DS_Project;
import java.util.*;
public class BillDemo
{
    public static void main(String[] args)
    {
        Scanner sc=new Scanner(System.in);
        Implement ob=new Implement();
        while(true)
        {
            System.out.println(" 1.Add new bill \n 2.Display
recorded data \n 3.Message alert \n 4.Exit");
            System.out.print("Enter Choice : ");
            int ch=sc.nextInt();
            switch(ch)
            {
                case 1: ob.enq();
                break;
                case 2: ob.display();
                break;
                case 3: ob.deq();
                break;
                default : System.exit(0);
            }
        }
    }
}

```

# OUTPUTS

The image displays two screenshots of an Eclipse IDE running a Java application. The application is a menu-driven program for managing bills.

**First Screenshot:** The application is running, and the user has entered the following data:

- 1.Add new bill
- 2.Display recorded data
- 3.Message alert
- 4.Exit
- Enter Choice : 1
- Enter bill amount :25000
- Please enter the name of customer : Smith
- Enter mobile number : 9145869357
- Enter due date in format of yyyy/mm-1/dd : 2021

**Second Screenshot:** The application is running, and the user has entered the following data:

- 1.Add new bill
- 2.Display recorded data
- 3.Message alert
- 4.Exit
- Enter Choice : 1
- Enter bill amount :2630
- Please enter the name of customer : Suresh
- Enter mobile number : 56986239
- Enter due date in format of yyyy/mm-1/dd : 2025
- 2
- 1.Add new bill
- 2.Display recorded data
- 3.Message alert
- 4.Exit
- Enter Choice : 1
- Enter bill amount :5860
- Please enter the name of customer : Keerthy
- Enter mobile number : 9486792356
- Enter due date in format of yyyy/mm-1/dd : 2030

The output shows the recorded data for the bills entered:

- 1.Add new bill
- 2.Display recorded data
- 3.Message alert
- 4.Exit
- Enter Choice : 2
- Name=Smith
- Bill amount=25000
- Due date=Sun Jun 06 00:00:00 IST 2021
- mobile=9145869357
- Name=Ravi
- Bill amount=26538
- Due date=Wed Jul 02 00:00:00 IST 2025
- mobile=26586943
- Name=Suresh
- Bill amount=2630

The screenshot shows the Eclipse IDE interface. The top menu bar includes File, Edit, Source, Refactor, Navigate, Search, Project, Run, Window, and Help. The top toolbar contains various icons for file operations and development tools. The left sidebar shows the Project Explorer with the following structure:

- Data Structures Group Project/sr/DS\_Project/Bt/memo.java - Eclipse IDE
- Data Structures
- Data Structure Sem in
- Data Structures Group
- JRE System Library
- src
  - DS\_Project
    - BtDemo.java
    - Billing.java
    - Implement.java
- Data Structures Internu
- Data Structures Lab
- External Lab
- java
- Java\_basic
- Java Group Project
- Trees

The right sidebar shows the Console window with the following output:

```

C:\Program Files\Java\jdk-15.0.2\bin\java.exe (25-Apr-2021, 4:31:55 pm - 4:37:14 pm)

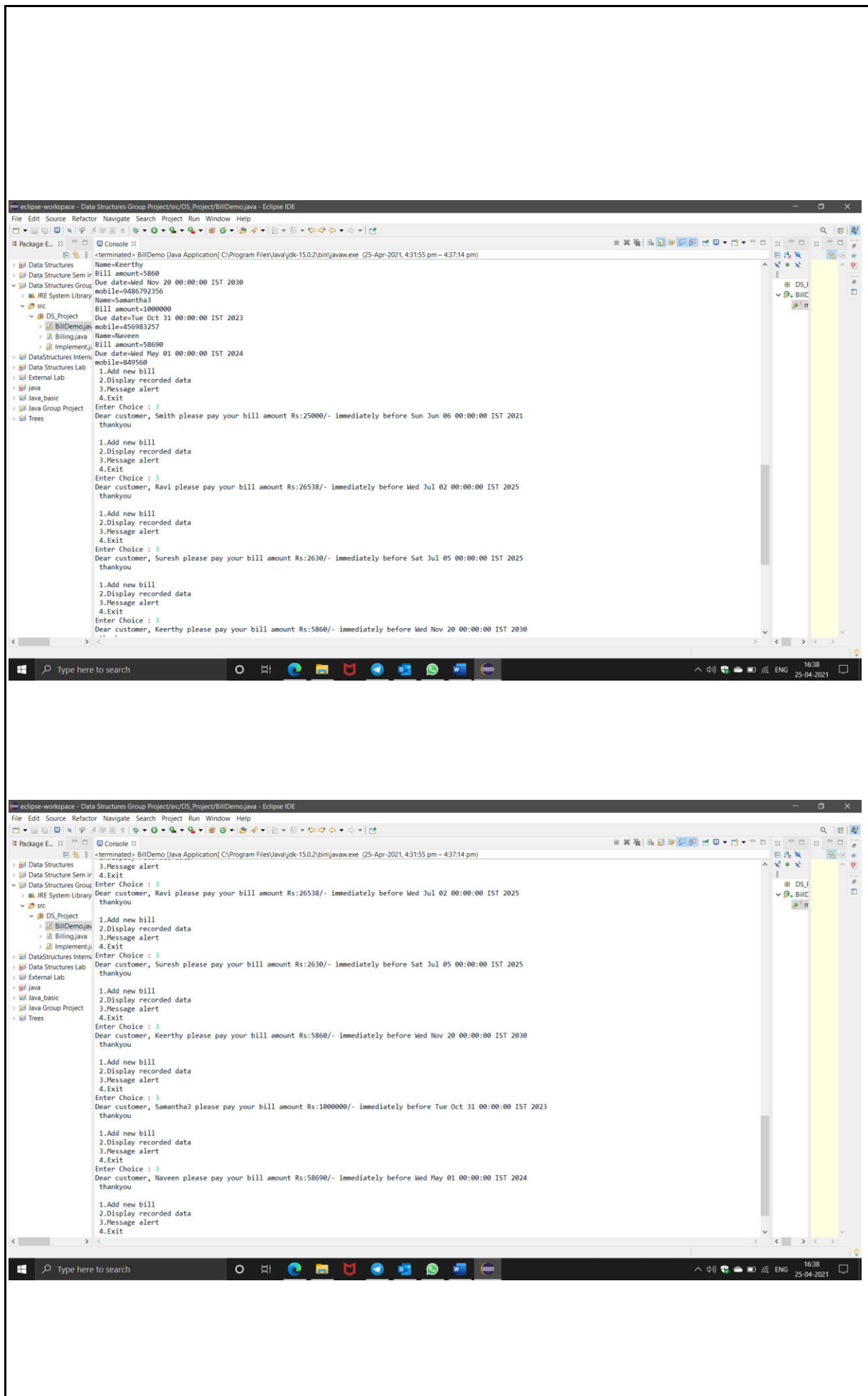
1.Add new bill
2.Display recorded data
3.Message alert
4.Exit
Enter Choice : 1
Enter bill amount : 25000
Please enter the name of customer : Smith
Enter mobile number : 9145869257
Enter due date in format of yyyy/mm-1/dd : 2021
5
6
1.Add new bill
2.Display recorded data
3.Message alert
4.Exit
Enter Choice : 1
Enter bill amount : 26538
Please enter the name of customer : Ravi
Enter mobile number : 26586943
Enter due date in format of yyyy/mm-1/dd : 2025
6
2
1.Add new bill
2.Display recorded data
3.Message alert
4.Exit
Enter Choice : 1
Enter bill amount : 2630
Please enter the name of customer : Suresh
Enter mobile number : 56986239
Enter due date in format of yyyy/mm-1/dd : 2025
6
5
1.Add new bill
2.Display recorded data
3.Message alert
4.Exit
Enter Choice : 1
Enter bill amount : 5860
Please enter the name of customer : Keerthy
Enter mobile number : 9486792356
Enter due date in format of yyyy/mm-1/dd : 2030
6

```

The bottom status bar shows the system clock as 16:37 on 25-04-2021, along with various system icons and the language setting (ENG).

The image shows the Eclipse IDE interface. The top menu bar includes File, Edit, Source, Refactor, Navigation, Database, Search, Project, Run, Window, and Help. The left sidebar shows the Project Explorer with a tree structure: Package Explorer, Data Structures Group Project, src, DS\_Project, BillDemo.java, Billing.java, Implement.java, Data Structures Interns, Data Structures Lab, External Lab, java, Java\_basic, Java Group Project, and Trees. The main editor area displays the source code of BillDemo.java. The console window at the bottom shows the output of the program, which is a bill management system. The output shows three successful transactions for customers Keerthy, Samantha, and Naveen. The console text is as follows:

```
terminated: BillDemo [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (25-Apr-2021, 4:31:55 pm - 4:37:14 pm)
Please enter the name of customer : Keerthy
Enter mobile number : 9486792356
Enter due date in format of yyyy/mm-1/dd : 2030
10
20
1. Add new bill
2. Display recorded data
3. Message alert
4. Exit
Enter Choice : 1
Enter bill amount : 1000000
Please enter the name of customer : Samantha3
Enter mobile number : 456983257
Enter due date in format of yyyy/mm-1/dd : 2023
09
31
1. Add new bill
2. Display recorded data
3. Message alert
4. Exit
Enter Choice : 1
Enter bill amount : 58698
Please enter the name of customer : Naveen
Enter mobile number : 849566
Enter due date in format of yyyy/mm-1/dd : 2024
03
31
1. Add new bill
2. Display recorded data
3. Message alert
4. Exit
Enter Choice : 2
Name=Smith
Bill amount=25000
Due date=Sun Jun 06 00:00:00 IST 2021
mobile=9145869357
Name=Ravi
Bill amount=26538
Due date=Wed Jul 02 00:00:00 IST 2025
mobile=26586943
Name=Suresh
Bill amount=2630
```



## **Conclusion & Future Work**

Bill Notification System Project is a simple console application designed to demonstrate the practical use of java programming language and its features as well as to generate an application which can be used in any departmental store, shops, cafes etc. for billing to the customer. You can use this application to keep the records such as name, address, mobile number, paid amount, due amount, payment date etc. of your regular customer. Moreover, if you have a new customer, you can add and edit the account at any time. The code of Bill Notification System Project in Data Structures has been written in Java programming language without the use of any graphics. The code is complete, totally error free and not that long – just. It is to be compiled in Code::Blocks using Eclipse .

## Team participation .

ID NUMBERS.	NAMES.	There work in this project.
2000030439	K.VENKAT	CODE
2000030428	K.SRAVANI	ERRORS
2000030472	K.TRISHITHA	EXPLANATION OF QUESTION.
2000030378	J.MANOHAR RAJ	HINTS GIVEN AND DOCUMENTATION