LAB : 6

Requrements :

(a) Windows PC (Windows 7/8/10) / Mac

(b) JDK 1.5

(c) Java Wireless Toolkit 2.5.2

Implementation :

1. Objective: Make application to login in HTTP server.

login.java :

```
import javax.microedition.midlet.*;
import javax.microedition.lcdui.*;
import javax.microedition.io.*;
import java.io.*;
import java.lang.*;
public class login extends MIDlet implements CommandListener {
    public Form form1;
    public Form form2;
    public Command okCommand;
    public Display display;
    public HttpConnection ht=null;
    public InputStream ist=null;
    public StringItem st;
    public TextField t1;
    public TextField t2;

    public StringBuffer buffer = new StringBuffer();
    public TextBox access;

    public login()
    {
        display=Display.getDisplay(this);
        st=new StringItem(" "," Welcome");
        t1=new TextField("UserName"," ",30,TextField.ANY);
        t2=new TextField("Password"," ",30,TextField.PASSWORD);
      form1=new Form("Login Here");
      form2=new Form("Welcome");
      okCommand=new Command("Login",Command.OK,1);
      form1.addCommand(okCommand);
      form1.setCommandListener(this);

      form1.append(t1);
      form1.append(t2);
    }

    public void startApp() {
        display.setCurrent(form1);
    }

    public void pauseApp() {
    }

    public void destroyApp(boolean unconditional) {
        notifyDestroyed();
    }


    public void commandAction(Command cmd,Displayable d)
    {
        if(cmd==okCommand)
        {
            try
            {

                  //                                                          String
url="http://192.168.5.19:8080/WebApplication7/index.jsp?t1=101&t2=aaa";
              String url="http://127.0.0.1:12357/login/su1?pass=11&user=sudhanshu";

//ht=(HttpConnection)Connector.open("http://192.168.5.19:8080/WebApplication7/index.js
p");
              ht=(HttpConnection)Connector.open(url);
              ist=ht.openInputStream();
                  int chars;
                  while((chars = ist.read()) != -1){
                          buffer.append((char) chars);
                  }
                  System.out.println(buffer.toString());
                  access = new TextBox("Access Text", buffer.toString(), 1024, 0);
                  //form2.append(access);
                  display.setCurrent(access);
```

```
                }
                catch (Exception e){
                        form1.append(e.getMessage());
                }

                //finally{
                //if(ist != null){
                //ist.close();
                //}}

        }
    }
}
```

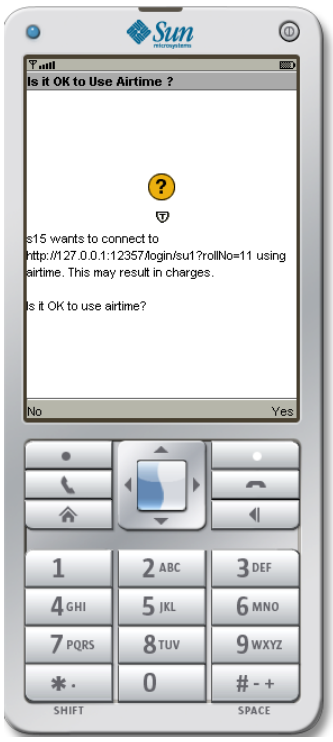
JSP Code :

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
   pageEncoding="ISO-8859-1"%>
 <%@ page import="java.sql.*" %>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Details</title>
</head>
<body>
        <div style="padding:5px 400px; border:4px solid orange; border-radius:4px;">
        <%
        String url ="jdbc:mysql://localhost:3306/studentdetails";
        String name ="root";
        String pass ="1219";
        String query="select * from student";
        int pass= Integer.parseInt(request.getParameter("pass"));
        session.setAttribute("pass", pass);
        Connection con = DriverManager.getConnection(url,name,pass);
        Statement st=con.createStatement();
        ResultSet rs = st.executeQuery(query);
        int flag=0;
        while(rs.next())
        {
                if(rs.getInt(1)==pass)
                {
                        out.println("<b>Roll No:</b>"+rs.getInt(1)+"<br><b>Name is:
</b>"+rs.getString(2)+"<br><b>Phone No: </b>"+rs.getInt(3)+"<br><b>Your father
name is </b>"+rs.getString(4));
```

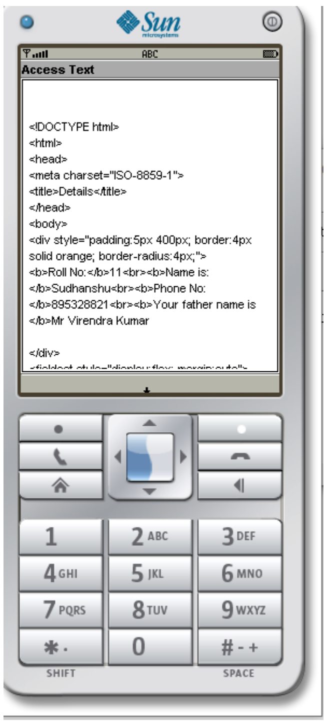
```
                        flag=1;
                }
        }
        if(flag==0)
                out.println("<b>Invalid roll Number please type correct Roll Number</b>");

        st.close();
        con.close();
        %>
        </div>
        <fieldset style="display:flex; margin:auto">
                <form action="su2">
                        New Phone no: <input type="number" name="phone" />
                        <input type="submit" value="update now"/>
                </form>
        </fieldset>

        <br>
        <br>
        <br>
        <fieldset>
        <h3><b><i>for logout <a href="login.html"> click me</a></i></b></h3>
        </fieldset>

</body>
</html>
```

Note: This app serves details of student after verifying username and passworsd. The problem which came is that it is serving html code instead parsing it.

Output :



```
Is it OK to Use Airtime ?

s15 wants to connect to
http://127.0.0.1:12357/login/su1?rollNo=11 using
airtime. This may result in charges.

Is it OK to use airtime?
```



```
Access Text

<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Details</title>
</head>
<body>
<div style="padding:5px 400px; border:4px
solid orange; border-radius:4px;">
<b>Roll No:</b>11<br><b>Name is:
</b>Sudhanshu<br><b>Phone No:
</b>895328821<br><b>Your father name is
</b>Mr Virendra Kumar

</div>
```

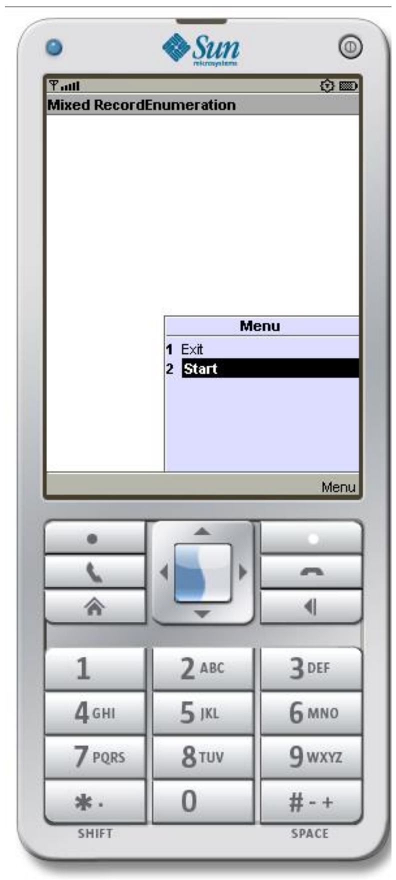
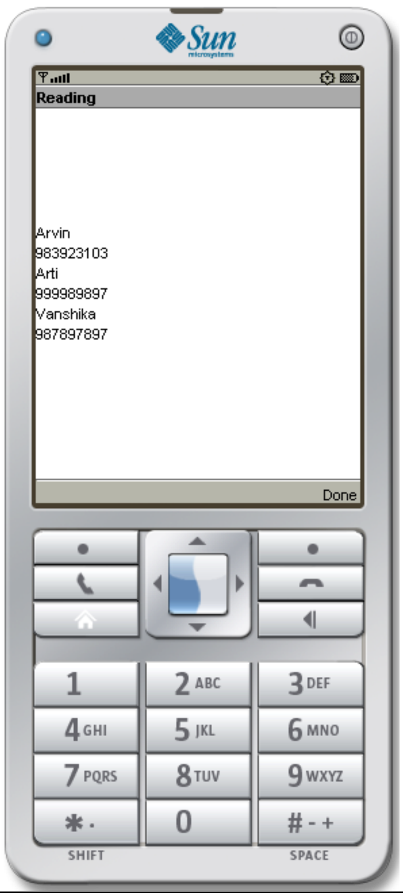
2. Create mobile application which stores contacts in rms

ContactNumber.java :

```
import javax.microedition.rms.*;
import javax.microedition.midlet.*;
import javax.microedition.lcdui.*;
import java.io.*;
public class ContactNumber extends MIDlet implements CommandListener {
        private Display display;
        private Alert alert;
        private Form form;
        private Command exit;
        private Command start;
        private RecordStore recordstore = null;
        private RecordEnumeration recordEnumeration = null;
        public ContactNumber() {
                display = Display.getDisplay(this);
                exit = new Command("Exit", Command.SCREEN, 1);
                start = new Command("Start", Command.SCREEN, 1);
                form = new Form("Mixed RecordEnumeration");
                form.addCommand(exit);
                form.addCommand(start);
                form.setCommandListener(this);
        }
        public void startApp() {
                display.setCurrent(form);
        }
        public void pauseApp() {
        }
        public void destroyApp( boolean unconditional ) {
        }
        public void commandAction(Command command, Displayable displayable) {
                if (command == exit) {
                        destroyApp(true);
                        notifyDestroyed();
                } else if (command == start) {
                        try {

                                recordstore = RecordStore.openRecordStore(
                                        "myRecordStore", true );

                        } catch (Exception error) {
                                alert = new Alert("Error Creating",

                                        error.toString(), null, AlertType.WARNING);
                                alert.setTimeout(Alert.FOREVER);
                                display.setCurrent(alert);
                        }
                        try {
                                byte[] outputRecord;
                                String outputString[] = {"Arvin",
                                                 "Arti", "Vanshika"
                                                };
                                int outputInteger[] = {983923103, 999989897, 987897897};
                                ByteArrayOutputStream outputStream =
                                  new ByteArrayOutputStream();
                                DataOutputStream outputDataStream =

                                  new DataOutputStream(outputStream);

                                for (int x = 0; x < 3; x++) {
                                        outputDataStream.writeUTF(outputString[x]);
                                        outputDataStream.writeInt(outputInteger[x]);
                                        outputDataStream.flush();
                                        outputRecord = outputStream.toByteArray();
                                        recordstore.addRecord(outputRecord, 0,
                                                      outputRecord.length);

                                }
                                outputStream.reset();
                                outputStream.close();
                                outputDataStream.close();
                        } catch ( Exception error) {
                                alert = new Alert("Error Writing",
                                        error.toString(), null, AlertType.WARNING);
                                alert.setTimeout(Alert.FOREVER);
                                display.setCurrent(alert);
                        }
                        try {
                                StringBuffer buffer = new StringBuffer();
                                byte[] byteInputData = new byte[300];
                                ByteArrayInputStream        inputStream        =        new
ByteArrayInputStream(byteInputData);
                                DataInputStream inputDataStream =

                                  new DataInputStream(inputStream);
                                recordEnumeration = recordstore.enumerateRecords(

                                                null, null, false);
                                while (recordEnumeration.hasNextElement()) {
```

```
        recordstore.getRecord(recordEnumeration.nextRecordId(),
                                                        byteInputData, 0);
                                        buffer.append(inputDataStream.readUTF());
                                        buffer.append("\n");
                                        buffer.append(inputDataStream.readInt());
                                        buffer.append("\n");
                                        alert = new Alert("Reading", buffer.toString(),
                                                      null, AlertType.WARNING);
                                        alert.setTimeout(Alert.FOREVER);
                                        display.setCurrent(alert);
                                }
                                inputStream.close();
                        } catch (Exception error) {
                                alert = new Alert("Error Reading",
                                              error.toString(), null, AlertType.WARNING);
                                alert.setTimeout(Alert.FOREVER);
                                display.setCurrent(alert);
                        }
                        try {
                                recordstore.closeRecordStore();

                        } catch (Exception error) {
                                alert = new Alert("Error Closing",
                                              error.toString(), null, AlertType.WARNING);
                                alert.setTimeout(Alert.FOREVER);
                                display.setCurrent(alert);
                        }
                        if (RecordStore.listRecordStores() != null) {
                                try {
                                        RecordStore.deleteRecordStore("myRecordStore");
                                        recordEnumeration.destroy();
                                } catch (Exception error) {
                                        alert = new Alert("Error Removing",
                                                      error.toString(), null, AlertType.WARNING);
                                        alert.setTimeout(Alert.FOREVER);
                                        display.setCurrent(alert);
                                }
                        }
                }
        }
}
```

Output :

```
Arvin
983923103
Arti
999989897
Vanshika
987897897
```

3. Create application to sort number or characters using RMS

SortExample.java :

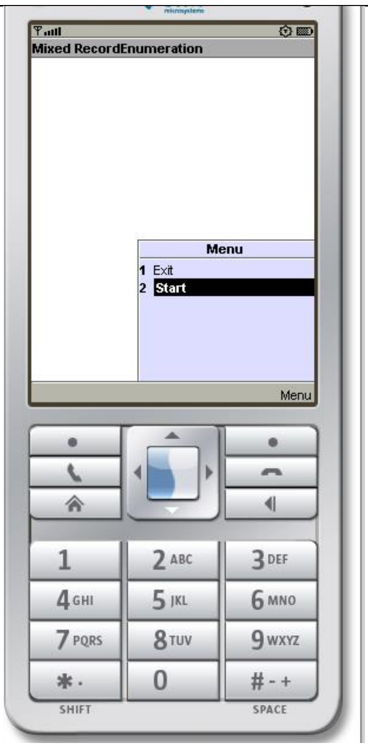
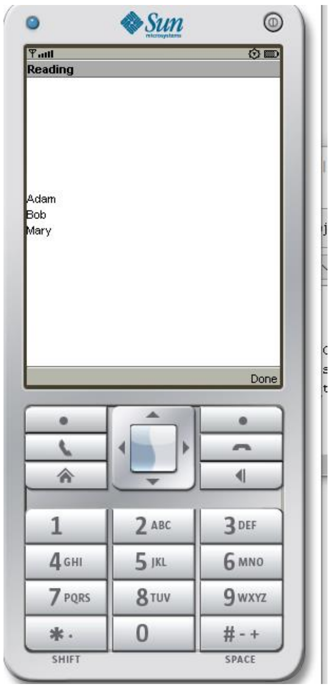
```
import javax.microedition.rms.*;
import javax.microedition.midlet.*;
import javax.microedition.lcdui.*;
import java.io.*;
public class SortExample extends MIDlet implements CommandListener {
        private Display display;
        private Alert alert;
        private Form form;
        private Command exit;
        private Command start;
        private RecordStore recordstore = null;
        private RecordEnumeration recordEnumeration = null;
        private Comparator comparator = null;
        public SortExample () {
                display = Display.getDisplay(this);
                exit = new Command("Exit", Command.SCREEN, 1);
                start = new Command("Start", Command.SCREEN, 1);
                form = new Form("Mixed RecordEnumeration", null);
                form.addCommand(exit);
                form.addCommand(start);
                form.setCommandListener(this);
        }
        public void startApp() {
                display.setCurrent(form);
        }
        public void pauseApp() {
        }
        public void destroyApp( boolean unconditional ) {
        }
        public void commandAction(Command command, Displayable displayable) {
                if (command == exit) {
                        destroyApp(true);
                        notifyDestroyed();
                } else if (command == start) {
                        try {
                                recordstore = RecordStore.openRecordStore(
                                        "myRecordStore", true );

                        } catch (Exception error) {
                                alert = new Alert("Error Creating",
                                        error.toString(), null, AlertType.WARNING);
                                alert.setTimeout(Alert.FOREVER);
                                display.setCurrent(alert);
```

```
			}
			try {
				String outputData[] = {"Mary", "Bob", "Adam"};
				for (int x = 0; x < 3; x++) {
					byte[] byteOutputData = outputData[x].getBytes();
					recordstore.addRecord(byteOutputData, 0,
							byteOutputData.length);

				}
			} catch ( Exception error) {
				alert = new Alert("Error Writing",
						error.toString(), null, AlertType.WARNING);
				alert.setTimeout(Alert.FOREVER);
				display.setCurrent(alert);
			}
			try {
				StringBuffer buffer = new StringBuffer();
				Comparator comparator = new Comparator();
				recordEnumeration = recordstore.enumerateRecords(
						null, comparator, false);
				while (recordEnumeration.hasNextElement()) {
					buffer.append(new
String(recordEnumeration.nextRecord()));
					buffer.append("\n");
				}
				alert = new Alert("Reading", buffer.toString() ,
						null, AlertType.WARNING);
				alert.setTimeout(Alert.FOREVER);
				display.setCurrent(alert);
			} catch (Exception error) {
				alert = new Alert("Error Reading",

						error.toString(), null, AlertType.WARNING);

				alert.setTimeout(Alert.FOREVER);
				display.setCurrent(alert);
			}
			try {
				recordstore.closeRecordStore();
			} catch (Exception error) {
				alert = new Alert("Error Closing",

						error.toString(), null, AlertType.WARNING);

				alert.setTimeout(Alert.FOREVER);
				display.setCurrent(alert);
			}
```

```
                        if (RecordStore.listRecordStores() != null) {
                                try {
                                        RecordStore.deleteRecordStore("myRecordStore");
                                        recordEnumeration.destroy();
                                } catch (Exception error) {
                                        alert = new Alert("Error Removing",
                                                    error.toString(), null, AlertType.WARNING);
                                        alert.setTimeout(Alert.FOREVER);
                                        display.setCurrent(alert);
                                }
                        }
                }
        }

}
class Comparator implements RecordComparator {
        public int compare(byte[] record1, byte[] record2) {
                String string1 = new String(record1),
                string2 = new String(record2);
                int comparison = string1.compareTo(string2);
                if (comparison == 0)
                        return RecordComparator.EQUIVALENT;
                else if (comparison < 0)
                        return RecordComparator.PRECEDES;
                else
                        return RecordComparator.FOLLOWS;
        }
}
```

Note: In this application we need to sort names consisting of Adam, Bob and Mary

Output :

Mixed RecordEnumeration

Menu
1 Exit
2 Start

Reading

Adam
Bob
Mary

4. Create mobile application to search from records.
(Note: In this application we need to find or search Samay from already sorted list application which consist name having Arvin, Samay, Tanmay)

SearchExample.java :

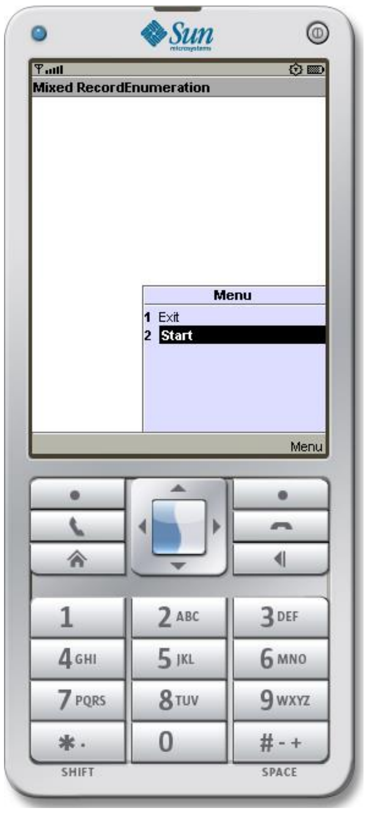
```
import javax.microedition.rms.*;
import javax.microedition.midlet.*;
import javax.microedition.lcdui.*;
import java.io.*;
public class SearchExample extends MIDlet implements CommandListener {
        private Display display;
        private Alert alert;
        private Form form;
        private Command exit;
        private Command start;
        private RecordStore recordstore = null;
        private RecordEnumeration recordEnumeration = null;
        private Filter filter = null;
        public SearchExample () {
                display = Display.getDisplay(this);
                exit = new Command("Exit", Command.SCREEN, 1);
                start = new Command("Start", Command.SCREEN, 1);
```

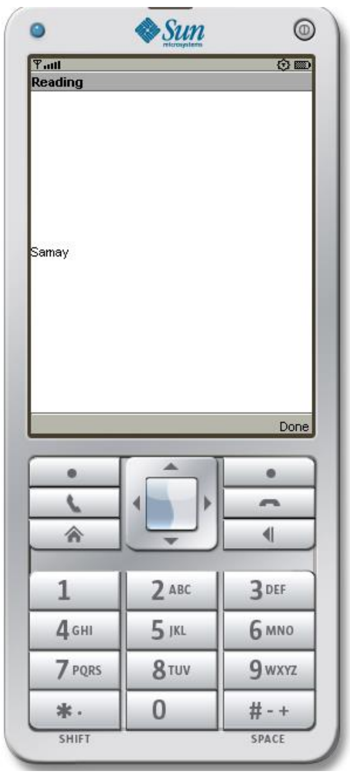
```
		form = new Form("Mixed RecordEnumeration", null);
		form.addCommand(exit);
		form.addCommand(start);
		form.setCommandListener(this);
	}
	public void startApp() {
		display.setCurrent(form);
	}
	public void pauseApp() {
	}
	public void destroyApp( boolean unconditional ) {
	}
	public void commandAction(Command command, Displayable displayable) {
		if (command == exit) {

			destroyApp(true);
			notifyDestroyed();
		} else if (command == start) {
			try {
				recordstore = RecordStore.openRecordStore(
						"myRecordStore", true );

			} catch (Exception error) {
				alert = new Alert("Error Creating",
						error.toString(), null, AlertType.WARNING);
				alert.setTimeout(Alert.FOREVER);
				display.setCurrent(alert);
			}
			try {
				String outputData[] = {"Arvin", "Samay", "Tanmay"};
				for (int x = 0 ; x < 3; x++) {
					byte[] byteOutputData = outputData[x].getBytes();
					recordstore.addRecord(byteOutputData, 0,
							byteOutputData.length);

				}
			} catch ( Exception error) {
				alert = new Alert("Error Writing",
						error.toString(), null, AlertType.WARNING);
				alert.setTimeout(Alert.FOREVER);
				display.setCurrent(alert);
			}
			try {
				filter = new Filter("Samay");
				recordEnumeration = recordstore.enumerateRecords(

							filter, null, false);
```

```
                        if (recordEnumeration.numRecords() > 0) {
                                String          string          =          new
String(recordEnumeration.nextRecord());
                                alert = new Alert("Reading", string,
                                        null, AlertType.WARNING);
                                alert.setTimeout(Alert.FOREVER);
                                display.setCurrent(alert);
                        }
                } catch (Exception error) {
                        alert = new Alert("Error Reading",
                                error.toString(), null, AlertType.WARNING);
                        alert.setTimeout(Alert.FOREVER);
                        display.setCurrent(alert);
                }
                try {
                        recordstore.closeRecordStore();
                } catch (Exception error) {
                        alert = new Alert("Error Closing",
                                error.toString(), null, AlertType.WARNING);
                        alert.setTimeout(Alert.FOREVER);
                        display.setCurrent(alert);
                }
                if (RecordStore.listRecordStores() != null) {
                        try {
                                RecordStore.deleteRecordStore("myRecordStore");
                                recordEnumeration.destroy();
                                filter.filterClose();
                        } catch (Exception error) {
                                alert = new Alert("Error Removing",
                                        error.toString(), null, AlertType.WARNING);
                                alert.setTimeout(Alert.FOREVER);
                                display.setCurrent(alert);
                        }
                }

            }
        }
}
class Filter implements RecordFilter {
        private String search = null;
        private ByteArrayInputStream inputstream = null;
        private DataInputStream datainputstream = null;
        public Filter(String search) {
                this.search = search.toLowerCase();
        }
        public boolean matches(byte[] suspect) {
                String string = new String(suspect).toLowerCase();
```

```
			if (string != null && string.indexOf(search) != -1)
				return true;
			else
				return false;
		}
		public void filterClose() {
			try {
				if (inputstream != null) {
					inputstream.close();
				}
				if (datainputstream != null) {
					datainputstream.close();
				}
			} catch ( Exception error) {
			}
		}
}
```

Output :


Mixed RecordEnumeration
Menu
1 Exit
2 Start
Menu


Reading
Samay
Done