



SCHOOL OF COMPUTER SCIENCE AND ENGINEERING
(K21PG)

PROJECT TITLE:

AC Servicing Management System

Course Name: Programming in Java

Course Code: CSE310

Submitted By:

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Code:

```
import java.io.*;
import java.util.ArrayList;
import java.util.Date;
import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Scanner;
import java.io.BufferedReader;
import java.io.FileInputStream;
import java.io.IOException;
```

```
import java.io.InputStreamReader;

class ACService {
    private int serviceId;
    private String customerName;
    private String customerAddress;
    private String customerPhone;
    private Date serviceDate;
    private String serviceType;
    private String technicianName;
    private String status;
    private String remarks;
    private double totalBill;

    public ACService(int serviceId, String customerName,
String customerAddress, String customerPhone,
        Date serviceDate, String serviceType, String
technicianName, String status, String remarks,
        double totalBill) {
        this.serviceId = serviceId;
        this.customerName = customerName;
        this.customerAddress = customerAddress;
        this.customerPhone = customerPhone;
        this.serviceDate = serviceDate;
        this.serviceType = serviceType;
        this.technicianName = technicianName;
        this.status = status;
        this.remarks = remarks;
        this.totalBill = totalBill;
    }

    public int getServiceId() {
        return serviceId;
    }

    public void setServiceId(int serviceId) {
        this.serviceId = serviceId;
    }
}
```

```
public String getCustomerName() {  
    return customerName;  
}  
  
public void setCustomerName(String customerName) {  
    this.customerName = customerName;  
}  
  
public String getCustomerAddress() {  
    return customerAddress;  
}  
  
public void setCustomerAddress(String customerAddress) {  
    this.customerAddress = customerAddress;  
}  
  
public String getCustomerPhone() {  
    return customerPhone;  
}  
  
public void setCustomerPhone(String customerPhone) {  
    this.customerPhone = customerPhone;  
}  
  
public Date getServiceDate() {  
    return serviceDate;  
}  
  
public void setServiceDate(Date serviceDate) {  
    this.serviceDate = serviceDate;  
}  
  
public String getServiceType() {  
    return serviceType;  
}  
  
public void setServiceType(String serviceType) {
```

```

        this.serviceType = serviceType;
    }

    public String getTechnicianName() {
        return technicianName;
    }

    public void setTechnicianName(String technicianName) {
        this.technicianName = technicianName;
    }

    public String getStatus() {
        return status;
    }

    public void setStatus(String status) {
        this.status = status;
    }

    public String getRemarks() {
        return remarks;
    }

    public void setRemarks(String remarks) {
        this.remarks = remarks;
    }

    public double getTotalBill() {
        return totalBill;
    }

    public void setTotalBill(double totalBill) {
        this.totalBill = totalBill;
    }
}

class ACServiceManager {
    private ArrayList<ACService> serviceList;

```

```
public ACServiceManager() {
    serviceList = new ArrayList<>();
}

public void addService(ACService service) {
    serviceList.add(service);
}

public void updateService(int serviceId, String
status, String remarks) {
    for (ACService service : serviceList) {
        if (service.getServiceId() == serviceId) {
            service.setStatus(status);
            service.setRemarks(remarks);
            break;
        }
    }
}

public void deleteService(int serviceId) {
    for (int i = 0; i < serviceList.size(); i++) {
        if (serviceList.get(i).getServiceId() ==
serviceId) {
            serviceList.remove(i);
            break;
        }
    }
}

public ArrayList<ACService> getServiceList() {
    return serviceList;
}

public ACService searchService(int serviceId) {
    for (ACService service : serviceList) {
        if (service.getServiceId() == serviceId) {
            return service;
        }
    }
}
```

```

        }
    }
    return null;
}

public double getTotalEarnings() {
    double total = 0;
    for (ACService service : serviceList) {
        total += service.getTotalBill();
    }
    return total;
}

public ACService createService(int serviceId, String
customerName, String customerAddress, String customerPhone,
                                Date serviceDate,
String serviceType, String technicianName, String status,
                                String remarks,
double totalBill) {
    return new ACService(serviceId, customerName,
customerAddress, customerPhone, serviceDate, serviceType,
                                technicianName, status,
remarks, totalBill);
}

public ACService addService(String customerName,
String customerAddress, String customerPhone,
                                Date serviceDate, String
serviceType, String technicianName, String status,
                                String remarks, double
totalBill) {
    ACService service =
createService(serviceList.size() + 1, customerName,
customerAddress, customerPhone,
                                serviceDate,
serviceType, technicianName, status, remarks, totalBill);
    addService(service);
    return service;
}

```

```

    }
}

public class ACServiceManagementSystem {
    public static void main(String[] args) {
        ACServiceManager serviceManager = new
ACServiceManager();
        Scanner scanner = new Scanner(System.in);
        SimpleDateFormat dateFormat = new
SimpleDateFormat("MM/dd/yyyy");
        BufferedReader reader = new BufferedReader(new
InputStreamReader(System.in));
        String fileName = "service_records.txt";
        File file = new File(fileName);

        // If the file doesn't exist, create it
        if (!file.exists()) {
            try {
                file.createNewFile();
            } catch (IOException e) {
                e.printStackTrace();
            }
        }
        boolean quit = false;

        while (!quit) {
            System.out.println(" ----- ");
            // Display menu options
            System.out.println("AC Service Management
System");
            System.out.println("1. Add Service");
            System.out.println("2. Update Service");
            System.out.println("3. Delete Service");
            System.out.println("4. View Service List");
            System.out.println("5. Search Service");
            System.out.println("6. Total Earnings");
            System.out.println("7. Quit");
            System.out.print("Enter your choice: ");

```

```

        // Get user input
        System.out.print("Enter your choice: ");
        int choice = 0;
        try {
            choice =
Integer.parseInt(reader.readLine());
        } catch (IOException e) {
            e.printStackTrace();
        }

        switch (choice) {
            case 1:
                // Add a new service record
                System.out.print("Enter customer name:
");

                String customerName = "";
                try {
                    customerName = reader.readLine();
                } catch (IOException e) {
                    e.printStackTrace();
                }
                System.out.print("Enter customer
address: ");

                String customerAddress = "";
                try {
                    customerAddress = reader.readLine();
                } catch (IOException e) {
                    e.printStackTrace();
                }
                System.out.print("Enter customer phone
:");

                String customerPhone = "";
                try {
                    customerPhone = reader.readLine();
                } catch (IOException e) {
                    e.printStackTrace();
                }
            }
        }
    }
}

```



```
        System.out.print("Enter AC model: ");
        String acModel = "";
        try {
            acModel = reader.readLine();
        } catch (IOException e) {
            e.printStackTrace();
        }
        System.out.print("Enter Service Type:
");

        String serviceType = "";
        try {
            serviceType = reader.readLine();
        } catch (IOException e) {
            e.printStackTrace();
        }
        System.out.print("Enter technicianName:
");

        String technicianName = "";
        try {
            technicianName = reader.readLine();
        } catch (IOException e) {
            e.printStackTrace();
        }
        System.out.print("Enter remarks: ");
        String remarks = "";
        try {
            remarks = reader.readLine();
        } catch (IOException e) {
            e.printStackTrace();
        }
        System.out.print("Enter Service Status:
");

        String status = "";
        try {
            status = reader.readLine();
        } catch (IOException e) {
            e.printStackTrace();
        }
```

```

    }

    System.out.print("Enter service date
(dd/mm/yyyy): ");
    Date serviceDate = null;
    try {
        serviceDate =
dateFormat.parse(scanner.nextLine());
        // serviceDate = reader.readLine();
    } catch (ParseException e) {
        e.printStackTrace();
    }

    System.out.print("Enter service cost:
");
    double serviceCost = 0.0;
    try {
        serviceCost =
Double.parseDouble(reader.readLine());
    } catch (IOException e) {
        e.printStackTrace();
    }
    System.out.print("Enter TotalBill : ");
    double totalBill = 0.0;
    try {
        totalBill =
Double.parseDouble(reader.readLine());
    } catch (IOException e) {
        e.printStackTrace();
    }
    ACService service = new
ACService(serviceManager.getServiceList().size() + 1,
customerName,
        customerAddress, customerPhone,
serviceDate, serviceType, technicianName,
status,remarks, totalBill);
    serviceManager.addService(service);
    // Write the new record to the file

```

```

        try {
            FileWriter fw = new FileWriter(file,
true);
            BufferedWriter bw = new
BufferedWriter(fw);

            bw.write("-----
-----\n");
            while(choice==1){
                bw.write(
                    "\nName: " +
customerName
                    + "\nAddress: " +
customerAddress
                    + "\nPhone: " +
customerPhone
                    + "\nModel : " +
acModel
                    + "\nserviceDate : "
+ serviceDate
                    + "\nserviceType : "
+ serviceType
                    + "\nStatus : " +
status
                    + "\nserviceCost : "
+ serviceCost);

                bw.newLine();
                bw.close();
                fw.close();
                System.out.println("Service record
added successfully.");
            }

        } catch (IOException e) {
            e.printStackTrace();
        }
        break;

```

```

        case 2:
            // Update Service
            System.out.print("Enter service ID to
update: ");

            String serviceId = "";
            try {
                serviceId = reader.readLine();
            } catch (IOException e) {
                e.printStackTrace();
            }
            System.out.print("Enter new status: ");
            String newStatus = "";
            try {
                newStatus = reader.readLine();
            } catch (IOException e) {
                e.printStackTrace();
            }
            System.out.print("Enter new remarks: ");
            String newRemarks = "";
            try {
                newRemarks = reader.readLine();
            } catch (IOException e) {
                e.printStackTrace();
            }

            try {
                FileWriter fw = new FileWriter(file,
true);

                BufferedWriter bw = new
BufferedWriter(fw);

                bw.write(serviceId + "," + newStatus
+ "," + newRemarks);

                bw.newLine();
                bw.close();
                fw.close();
                System.out.println("Service
updated.");
            } catch (IOException e) {

```

```

        e.printStackTrace();
    }
    break;
case 3:
    System.out.print("Enter service ID to
delete: ");

    int serviceIdToDelete = scanner.nextInt();
    scanner.nextLine(); // Consume the newline
character

    serviceManager.deleteService(serviceIdToDelete);

    System.out.println("Service deleted.");
    break;

case 4:

    // Display the service list
    try {
        FileInputStream fileInputStream =
new FileInputStream("service_records.txt");
        BufferedReader bufferedReader = new
BufferedReader(new InputStreamReader(fileInputStream));
        String line;
        while ((line =
bufferedReader.readLine()) != null) {
            System.out.println(line);
        }
        bufferedReader.close();
        fileInputStream.close();
    } catch (IOException e) {
        System.out.println("An error
occurred while reading the file.");
        e.printStackTrace();
    }
    break;
case 5:
    System.out.print("Enter service ID to
search: ");

```

```

        int serviceIdToSearch =
scanner.nextInt();
        scanner.nextLine(); // Consume the
newline character
        ACService searchedService =
serviceManager.searchService(serviceIdToSearch);
        if (searchedService == null) {
            System.out.println("Service not
found.");
        } else {
            System.out.println("Service
ID\tCustomer Name\tService Type\tService Date\tTotal Bill");
            System.out.printf("%d\t\t%s\t\t%s\t\t
\t%s\t\t%.2f\n", searchedService.getServiceId(),
searchedService.getCustomerN
ame(), searchedService.getServiceType(),
dateFormat.format(searchedSe
rvice.getServiceDate()), searchedService.getTotalBill());
        }
        break;

        case 6:
            System.out.printf("Total earnings: %.2f\n",
serviceManager.getTotalEarnings());
            break;
        case 7:
            quit = true;
            System.out.println("Exiting AC Service
Management System...");
            break;
        default:
            System.out.println("Invalid choice.
Please try again.");
    }
}
}
}
}

```

Output:

```
-----  
AC Service Management System  
1. Add Service  
2. Update Service  
3. Delete Service  
4. View Service List  
5. Search Service  
6. Total Earnings  
7. Quit  
Enter your choice: Enter your choice: 1  
Enter customer name: Ritesh Pandey  
1. Add Service  
2. Update Service  
3. Delete Service  
4. View Service List  
5. Search Service  
6. Total Earnings  
7. Quit  
Enter your choice: Enter your choice: █
```

service_records.txt

```
1  -----
2
3  Name: Ritesh Pandey
4  Address: panjab
5  Phone: 8932031460
6  Model : bluestar
7  serviceDate : Wed Feb 02 00:00:00 IST 2022
8  serviceType : reaping
9  Status : active
10 serviceCost : 550.0
11
```

service_records.txt

```
1  -----
2
3  Name: Ritesh Pandey
4  Address: panjab
5  Phone: 8932031460
6  Model : bluestar
7  serviceDate : Wed Feb 02 00:00:00 IST 2022
8  serviceType : reaping
9  Status : active
10 serviceCost : 550.0
11 1,done,good
12
```

AC Service Management System

1. Add Service
 2. Update Service
 3. Delete Service
- serviceCost : 550.0
1,done,good

AC Service Management System

1. Add Service
2. Update Service
3. Delete Service
4. View Service List
5. Search Service
6. Total Earnings
7. Quit

Enter your choice: Enter your choice: █

AC Service Management System

1. Add Service
2. Update Service
3. Delete Service
4. View Service List
5. Search Service
6. Total Earnings
7. Quit

Enter your choice: Enter your choice: 5

Enter service ID to search: 1

Service ID	Customer Name	Service Type	Service Date	Total Bill
1	Ritesh Pandey	reapring	02/02/2022	550.00

AC Service Management System

1. Add Service
2. Update Service
3. Delete Service
4. View Service List
5. Search Service
6. Total Earnings
7. Quit

Enter your choice: Enter your choice: █

AC Service Management System

1. Add Service
2. Update Service
3. Delete Service
4. View Service List
5. Search Service
6. Total Earnings
7. Quit

Enter your choice: Enter your choice: 6

Total earnings: 550.00

AC Service Management System

1. Add Service
2. Update Service
3. Delete Service
4. View Service List
5. Search Service
6. Total Earnings
7. Quit

Enter your choice: Enter your choice:

AC Service Management System

1. Add Service
2. Update Service
3. Delete Service
4. View Service List
5. Search Service
6. Total Earnings
7. Quit

Enter your choice: Enter your choice: 3

Enter service ID to delete: 1

Service deleted.

AC Service Management System

1. Add Service
2. Update Service
3. Delete Service
4. View Service List
5. Search Service
6. Total Earnings
7. Quit

Enter your choice: Enter your choice:

AC Service Management System

1. Add Service
2. Update Service
3. Delete Service
4. View Service List
5. Search Service
6. Total Earnings
7. Quit

Enter your choice: Enter your choice: 5

Enter service ID to search: 1

Service not found.

AC Service Management System

1. Add Service
2. Update Service
3. Delete Service
4. View Service List
5. Search Service
6. Total Earnings
7. Quit

Enter your choice: Enter your choice:

AC Service Management System

1. Add Service
2. Update Service
3. Delete Service
4. View Service List
5. Search Service
6. Total Earnings
7. Quit

Enter your choice: Enter your choice: 7

Exiting AC Service Management System...

PS C:\Users\rites\Desktop\Ac Service management> █