

EIT Assignment 1

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Section: A3

Q1. Write a Java code which takes as input the number of people of various age group and print a ticket. At the end of the journey state the number of passengers of different age group who travelled and total amount received as collection of fares.

JAVA Code

```
import java.util.*;  
  
public class Ticket  
{  
  
    public static void main(String[] args){  
  
        System.out.println("\n\nAnmol Baranwal -- 2820208\n");  
  
        final short adult=5;  
        final short mid=3;  
  
        int totalFare=0, totalPassengers=0;  
  
        Scanner kybd = new Scanner(System.in);  
  
        System.out.println("Enter the number of passengers of age 18 or above");  
        int passenger= kybd.nextInt();  
        totalPassengers+=passenger;  
        // System.out.println("passengers of age 18 or above: " + passenger + "\n");
```

```
totalFare+=passenger*adult;

System.out.println("Enter the number of passengers of age less than 18 and greater than or equal to 5");

int passengerMid= kybd.nextInt();

totalPassengers+=passengerMid;

// System.out.println("passengers of age less than 18 and greater than or equal to 5: " + passenger + "\n");

totalFare+=passengerMid*mid;

System.out.println("Enter the number of passengers of age less than or equal to 4");

int passengerLow= kybd.nextInt();

totalPassengers+=passengerLow;

// System.out.println("passengers of age less than or equal to 4: " + passengerLow + "\n");

System.out.println("\n----- Category Wise Passenger details ----- \n");

System.out.println("passengers of age 18 or above: " + passenger + "");

System.out.println("passengers of age less than 18 and greater than or equal to 5: " + passengerMid + "");

System.out.println("passengers of age less than or equal to 4: " + passengerLow + "\n");

System.out.println("Total Passengers: " + totalPassengers + "");

System.out.println("Total Fare: " + totalFare + "\n");

}

}
```

JAVA Code Screenshot

The image shows two side-by-side screenshots of a Java code editor interface, likely from an IDE like IntelliJ IDEA or Eclipse. Both screenshots display the same Java code for a class named `Ticket`.

Code Content:

```
1 // ====== Q1 ======
2
3 import java.util.*;
4 public class Ticket
5 {
6     Run | Debug
7     public static void main(String[] args){
8
9         System.out.println("\n\nAnmol Baranwal -- 2820208\n");
10
11         final short adult=5;
12         final short mid=3;
13
14         int totalFare=0, totalPassengers=0;
15
16         Scanner kybd = new Scanner(System.in);
17
18         System.out.println("Enter the number of passengers of age 18 or above");
19         int passenger= kybd.nextInt();
20         totalPassengers+=passenger;
21         // System.out.println("passengers of age 18 or above: " + passenger + "\n");
22         totalFare+=passenger*adult;
23
24         System.out.println("Enter the number of passengers of age less than 18 and greater than or equal to 5");
25         int passengerMid= kybd.nextInt();
26         totalPassengers+=passengerMid;
27         // System.out.println("passengers of age less than 18 and greater than or equal to 5: " + passenger + "\n");
28         totalFare+=passengerMid*mid;
29
30         System.out.println("Enter the number of passengers of age less than or equal to 4");
31         int passengerLow= kybd.nextInt();
32         totalPassengers+=passengerLow;
33         // System.out.println("passengers of age less than or equal to 4: " + passengerLow + "\n");
34         System.out.println("\n----- Category Wise Passenger details -----");
35         System.out.println("passengers of age 18 or above: " + passenger + "");
36         System.out.println("passengers of age less than 18 and greater than or equal to 5: " + passengerMid + "");
37         System.out.println("passengers of age less than or equal to 4: " + passengerLow + "\n");
38         System.out.println("Total Passengers: " + totalPassengers + "");
39         System.out.println("Total Fare: " + totalFare + "\n");
40     }
41 }
```

Interface Elements:

- File menu icon (document with a folder).
- Project tree icon.
- Search icon.
- Run/Debug icon.
- Code editor area with syntax highlighting.
- Tool window icons (e.g., Task List, Problems, Structure).
- Bottom status bar showing file path (E:\study\academics sec-A>semester-5>EIT>Assignment>Ticket.java), line (Ln 9), column (Col 1), spaces (Spaces:4), encoding (UTF-8), CRLF, Java, Go Live, Prettier, and a refresh icon.

JAVA Code Output

The screenshot shows a Java code editor interface with a terminal window open. The terminal window displays the execution of a Java program named 'Ticket.java'.

```
PS C:\Users\anmol> cd "e:\study\academics sec-A\semester-5\EIT\Assignment\" ; if ($?) { javac Ticket.java } ; if ($?) { java Ticket }

Anmol Baranwal -- 2820208

Enter the number of passengers of age 18 or above
7
Enter the number of passengers of age less than 18 and greater than or equal to 5
3
Enter the number of passengers of age less than or equal to 4
5

----- Category Wise Passenger details -----
passengers of age 18 or above: 7
passengers of age less than 18 and greater than or equal to 5: 3
passengers of age less than or equal to 4: 5

Total Passengers: 15
Total Fare: 44
```

The terminal output shows the program prompting for passenger counts based on age categories (18+, 5-18, 4-). It then displays the total number of passengers and the total fare calculated.

Q2 . Write a program that will read a series of integers from the user and store them in an array called arr[]. The program should then calculate and display the sum, product of all integers entered by the user.

JAVA Code

```
import java.util.*;

public class MyArray

{

    public static void main(String[] args){

        System.out.println("\n\nAnmol Baranwal -- 2820208\n");

        Scanner kybd = new Scanner(System.in);

        System.out.println("Enter the size or number of elements you wish to enter: ");
        final int n = kybd.nextInt();

        int arr[] = new int[n];

        int sum = 0, pr=1;

        System.out.println("Enter the elements of the array: ");
        for(int i=0; i<n ; i++)
        {
            arr[i]=kybd.nextInt();
            sum+=arr[i];
            pr*=arr[i];
        }

        System.out.println("\nSum of all the elements of an array: " + sum);
        System.out.println("Product of all the elements of an array: " + pr + "\n");
    }
}
```

JAVA Code Screenshot

The screenshot shows a Java code editor with the file `MyArray.java` open. The code prints the user's name and handles the calculation of the sum and product of elements in an array.

```
1 // ===== Q2 =====
2
3 import java.util.*;
4 public class MyArray
5 {
6
7     public static void main(String[] args){
8
9         System.out.println("Anmol Baranwal -- 2820208");
10
11        Scanner kybd = new Scanner(System.in);
12
13        System.out.println("Enter the size or number of elements you wish to enter: ");
14        final int n = kybd.nextInt();
15
16        int arr[] = new int[n];
17        int sum = 0, pr=1;
18
19        System.out.println("Enter the elements of the array: ");
20        for(int i=0; i<n ; i++)
21        {
22            arr[i]=kybd.nextInt();
23            sum+=arr[i];
24            pr*=arr[i];
25        }
26        System.out.println("\nSum of all the elements of an array: " + sum);
27
28        System.out.println("Product of all the elements of an array: " + pr + "\n");
29    }
30 }
```

JAVA Code Output

The screenshot shows a terminal window running on Windows PowerShell. It displays the output of the Java program, which includes the user's name and the calculated sum and product of the array elements.

```
E:\study> academics sec-A > semester-5 > EIT > Assignment > J MyArray.java > ↵ MyArray > ↵ main(String[])
Run | Debug
public static void main(String[] args){
System.out.println("Anmol Baranwal -- 2820208");
}
PROBLEMS (4) OUTPUT DEBUG CONSOLE TERMINAL
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\anmol> cd "e:\study\academics sec-A\semester-5\EIT\Assignment" ; if ($?) { javac MyArray.java } ; if ($?) { java MyArray }

Anmol Baranwal -- 2820208
Enter the size or number of elements you wish to enter:
6
Enter the elements of the array:
2 -5 3 1 9 -13

Sum of all the elements of an array: -3
Product of all the elements of an array: 3510
PS E:\study\academics sec-A\semester-5\EIT\Assignment>
```

Q3. Write a class with the name employee and basic pay as its data member, find gross pay of an employee for the following allowance and deductions-

Dearness allowance = 25% of Basic pay

House rent allowance = 15% of Basic pay

Provident fund=8.33% of Basic pay

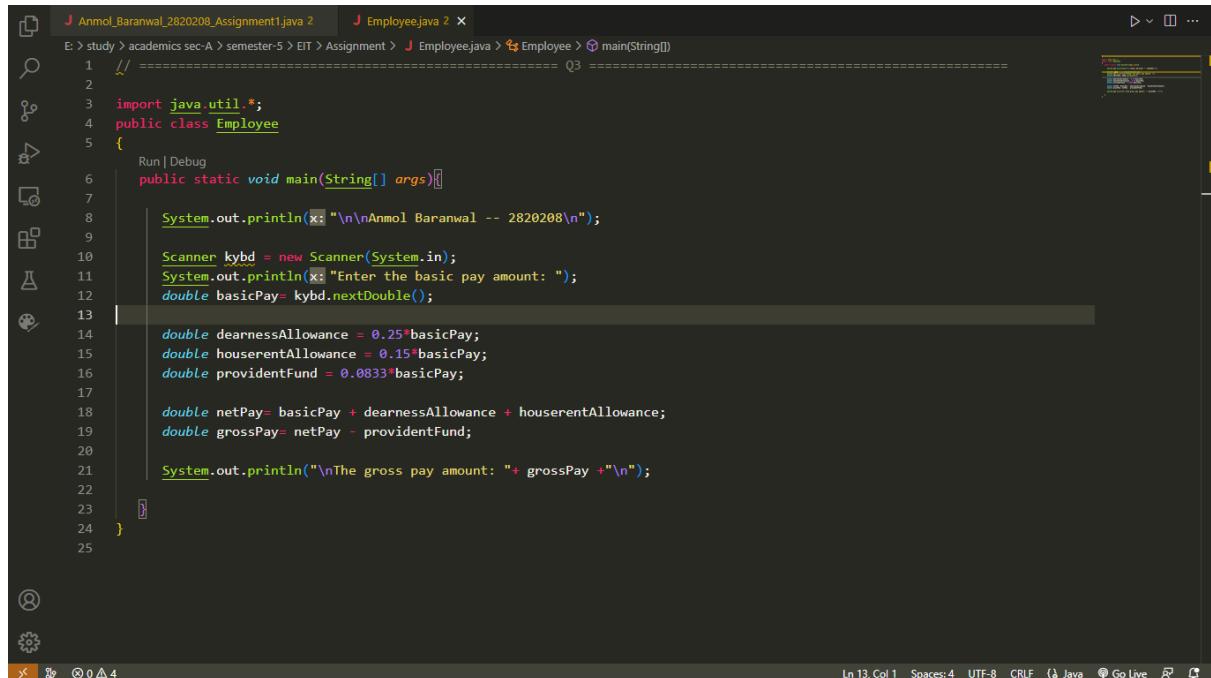
Net pay=basic pay + Dearness Allowance + House Rent Allowance

Gross Pay= Net pay – Provident Fund.

JAVA Code

```
import java.util.*;  
  
public class Employee  
{  
    public static void main(String[] args){  
  
        System.out.println("\n\nAnmol Baranwal -- 2820208\n");  
  
        Scanner kybd = new Scanner(System.in);  
        System.out.println("Enter the basic pay amount: ");  
        double basicPay= kybd.nextDouble();  
  
        double dearnessAllowance = 0.25*basicPay;  
        double houserentAllowance = 0.15*basicPay;  
        double providentFund = 0.0833*basicPay;  
  
        double netPay= basicPay + dearnessAllowance + houserentAllowance;  
        double grossPay= netPay - providentFund;  
  
        System.out.println("\nThe gross pay amount: "+ grossPay +"\n");  
    }  
}
```

JAVA Code Screenshot

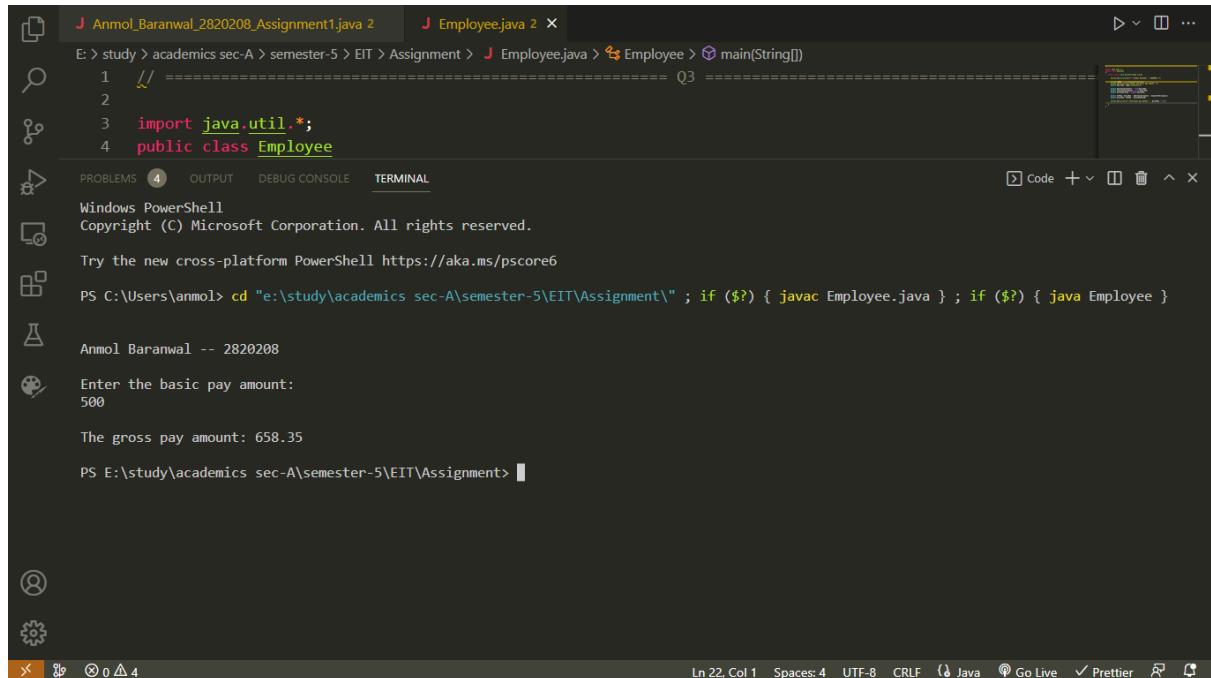


A screenshot of a Java code editor, likely Microsoft Visual Studio Code, showing the file `Employee.java`. The code calculates gross pay for an employee based on basic pay, dearness allowance, house rent allowance, and provident fund.

```
1 // ====== Q3 ======
2
3 import java.util.*;
4 public class Employee
5 {
6     Run | Debug
7     public static void main(String[] args){
8         System.out.println("Anmol Baranwal -- 2820208");
9
10        Scanner kybd = new Scanner(System.in);
11        System.out.println("Enter the basic pay amount: ");
12        double basicPay= kybd.nextDouble();
13
14        double dearnessAllowance = 0.25*basicPay;
15        double houserentAllowance = 0.15*basicPay;
16        double providentFund = 0.0833*basicPay;
17
18        double netPay= basicPay + dearnessAllowance + houserentAllowance;
19        double grossPay= netPay - providentFund;
20
21        System.out.println("\nThe gross pay amount: "+ grossPay +"\n");
22
23    }
24 }
```

The status bar at the bottom shows: Ln 13, Col 1 Spaces: 4 UTF-8 CRLF ⓘ Java ⓘ Go Live ⚙️ ⚙️

JAVA Code Output



A screenshot of a terminal window within the same IDE, showing the execution of the `Employee.java` program. The terminal output shows the user entering a basic pay amount of 500, and the program calculating and printing the gross pay amount of 658.35.

```
E:\study> cd "e:\study\academics sec-A\semester-5\EIT\Assignment" ; if ($?) { javac Employee.java } ; if ($?) { java Employee }

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\anmol> Anmol Baranwal -- 2820208

Enter the basic pay amount:
500

The gross pay amount: 658.35

PS E:\study\academics sec-A\semester-5\EIT\Assignment>
```

The status bar at the bottom shows: Ln 22, Col 1 Spaces: 4 UTF-8 CRLF ⓘ Java ⓘ Go Live ✓ Prettier ⚙️ ⚙️

Q4 . Your program should prompt the user to enter an account number, a service code r or R for regular service and p or P for premium service. Treat any other character as an error and the number of minutes the service was used during the day and the night (for premium service only). Your program should output the account number, type of services, number of minutes the telephone service was used and the amount due from the user.

JAVA Code

```
import java.util.*;  
  
class Bill  
{  
  
    public static void main(String[] args){  
  
        System.out.println("\n\nAnmol Baranwal -- 2820208\n");  
  
        Scanner kybd = new Scanner(System.in);  
  
        System.out.println("\nEnter the account number: ");  
        int accountNo= kybd.nextInt();  
        char serviceCode= 'p';  
  
        do{  
            System.out.println("\nEnter the service opted: (p/r) ");  
            serviceCode= kybd.next().charAt(0);  
            if(serviceCode=='P') serviceCode='p';  
            else if(serviceCode=='R' || serviceCode=='r') serviceCode='r';  
  
        }while(serviceCode!='p' && serviceCode!='r');  
  
        int minutes=0;  
        double amount=0;
```

```
if(serviceCode=='p'){
    amount=25;
    System.out.println("\nEnter the number of minutes service was used during the day
(6.00am to 6.00pm )");
    int minDay=kybd.nextInt();
    minutes+= minDay;
    if(minDay>75) amount+=(minDay-75)*0.1;

    System.out.println("Enter the number of minutes service was used during the night
(6.00pm to 6.00am )");
    int minNight=kybd.nextInt();
    minutes+= minNight;
    if(minNight>100) amount+=(minNight-100)*0.05;

}else if(serviceCode=='r'){
    amount=10;

    System.out.println("Enter the number of minutes service was used ");
    int minRegular=kybd.nextInt();
    minutes= minRegular;
    if(minRegular>50){
        amount+=(minRegular-50)*0.2;
    }
}

// final sequence
System.out.println("\nAccount Number: " + accountNo);
String service = (serviceCode=='p') ? "Premium\n" : "Regular\n";
System.out.print("Service Opted: " + service);
```

```
// if(serviceCode=='p') System.out.println("premium");  
  
// else if(serviceCode=='R') System.out.println("regular");  
  
System.out.println("No of minutes telephone service is used: " + minutes);  
  
System.out.println("Amount due: $" + amount + "\n");  
  
}  
}
```

JAVA Code Screenshot

The screenshot shows a Java code editor interface with two tabs: 'Bill.java' and 'Anmol_Baranwal_2820208_Assignment1.java'. The code in 'Bill.java' is as follows:

```
29 System.out.println("Enter the number of minutes service was used during the day (6.00am to 6.00pm) ");
30 int minDay=kybd.nextInt();
31 minutes+= minDay;
32 if(minDay>75) amount+=(minDay-75)*0.1;
33
34 System.out.println("Enter the number of minutes service was used during the night (6.00pm to 6.00am) ");
35 int minNight=kybd.nextInt();
36 minutes+= minNight;
37 if(minNight>100) amount+=(minNight-100)*0.05;
38
39 else if(serviceCode=='r'){
40     amount=10;
41
42     System.out.println("Enter the number of minutes service was used ");
43     int minRegular=kybd.nextInt();
44     minutes= minRegular;
45     if(minRegular>50){
46         amount+=(minRegular-50)*0.2;
47     }
48 }
49
50 // final sequence
51 System.out.println("\nAccount Number: " + accountNo);
52 String service = (serviceCode=='p') ? "Premium\n" : "Regular\n";
53 System.out.print("Service Opted: " + service);
54 // if(serviceCode=='p') System.out.println("premium");
55 // else if(serviceCode=='R') System.out.println("regular");
56 System.out.println("No of minutes telephone service is used: " + minutes);
57 System.out.println("Amount due: $" + amount + "\n");
58
59 }
```

The status bar at the bottom indicates: Ln 55, Col 67 Spaces: 4 UTF-8 CRLF ⓘ Java ⓘ Go Live ⓘ

JAVA Code Output

The screenshot shows a terminal window within a code editor interface. The command entered is:

```
PS C:\Users\anmol> cd "e:\study\academics sec-A\semester-5\EIT\Assignment\" ; if ($?) { javac Bill.java } ; if ($?) { java Bill }
```

The output of the program is:

```
Anmol Baranwal -- 2820208

Enter the account number:
2820208

Enter the service opted: (p/r)
P

Enter the number of minutes service was used during the day (6.00am to 6.00pm)
100
Enter the number of minutes service was used during the night (6.00pm to 6.00am)
200

Account Number: 2820208
Service Opted: Premium
No of minutes telephone service is used: 300
Amount due: $32.5
```

The status bar at the bottom indicates: Ln 42, Col 49 Spaces: 4 UTF-8 CRLF ⓘ Java ⓘ Go Live ⓘ Prettier ⓘ