

Lab 7 Asharib Faisal 25K-2013

Q1

```
#include <stdio.h>

int main() {
    float price[10], discount, finalprice[10], total=0;
    int i;

    for(i=0; i<10; i++)
    {
        printf("enter price of product %d: ", i+1);
        scanf("%f", &price[i]);
    }
    for (i = 0; i < 10; i++)
    {
        if(price[i]<1000)
        {
            discount = price[i] * 0.05;
        }
        else if(price[i] <= 5000 && price[i]>=1000)
        {
            discount = price[i] * 0.10;
        }
        else
        {
            discount = price[i] * 0.15;
        }

        finalprice[i] = price[i] - discount;
        printf("Item %d: Original = %.2f, Discounted = %.2f\n", i + 1, price[i], finalprice[i]);
        total += finalprice[i];
    }

    printf("\nTotal Purchase Amount: Rs. %.2f\n", total);

    if (total > 25000)
    {
        printf("Congratulations! You earned a Gold Voucher!\n");
    }

    return 0;
}
```

```
C:\Users\ALISHBA\Desktop\1. x + v
enter price of product 1: 20000
enter price of product 2: 1500
enter price of product 3: 2000
enter price of product 4: 4000
enter price of product 5: 3000
enter price of product 6: 7000
enter price of product 7: 200
enter price of product 8: 200
enter price of product 9: 100
enter price of product 10: 50
Item 1: Original = 20000.00, Discounted = 17000.00
Item 2: Original = 1500.00, Discounted = 1350.00
Item 3: Original = 2000.00, Discounted = 1800.00
Item 4: Original = 4000.00, Discounted = 3600.00
Item 5: Original = 3000.00, Discounted = 2700.00
Item 6: Original = 7000.00, Discounted = 5950.00
Item 7: Original = 200.00, Discounted = 190.00
Item 8: Original = 200.00, Discounted = 190.00
Item 9: Original = 100.00, Discounted = 95.00
Item 10: Original = 50.00, Discounted = 47.50

Total Purchase Amount: Rs. 32922.50
Congratulations! You earned a Gold Voucher!

-----
Process exited after 27.91 seconds with return value 0
Press any key to continue . . .
```

Q2

```
lled1 1..c
#include <stdio.h>

int main()
{
    int ward[7], i, total = 0;

    printf("Enter number of patients for 7 wards:");
    for (i = 0; i < 7; i++) {
        scanf("%d", &ward[i]);
        total += ward[i];
    }

    for (i = 0; i < 7; i++) {
        if (ward[i] > 10)
        {
            printf("Ward %d: Overcrowded\n", i + 1);
        }
        else if (ward[i] >= 6)
        {
            printf("Ward %d: Stable\n", i + 1);
        }
        else
        {
            printf("Ward %d: Underutilized\n", i + 1);
        }
    }

    printf("\nTotal patients: %d\n", total);

    return 0;
}
```

```
C:\Users\ATISHA\Desktop\1..c
Enter number of patients for 7 wards:6
10
9
2
5
9
7
Ward 1: Stable
Ward 2: Stable
Ward 3: Stable
Ward 4: Underutilized
Ward 5: Underutilized
Ward 6: Stable
Ward 7: Stable

Total patients: 48

-----
Process exited after 14.87 seconds with return value 0
Press any key to continue . . .
```

Q3

```
Untitled1 1..c
1 #include <stdio.h>
2
3 int main() {
4     int status[15], delay[15], fine[15];
5     int i, totalFine = 0;
6
7     printf("Enter payment status (0 = not paid, 1 = paid) for 15 students:\n");
8     for (i = 0; i < 15; i++)
9         scanf("%d", &status[i]);
10
11     printf("Enter delay in months for each student:\n");
12     for (i = 0; i < 15; i++)
13         scanf("%d", &delay[i]);
14
15     printf("\nNo.\tStatus\tFine\tRemark\n");
16
17     for (i = 0; i < 15; i++) {
18         if (status[i] == 1) {
19             fine[i] = 0;
20             printf("%d\tPaid\t%d\tCleared\n", i + 1, fine[i]);
21         }
22         else {
23             if (delay[i] == 1)
24                 fine[i] = 500;
25             else if (delay[i] >= 2)
26                 fine[i] = 1000;
27             else
28                 fine[i] = 0;
29             totalFine += fine[i];
30             printf("%d\tUnpaid\t%d\tDefaulter\n", i + 1, fine[i]);
31         }
32     }
33
34     printf("\nTotal fine collected: Rs. %d\n", totalFine);
35
36     return 0;
37 }
```

Enter payment status (0 = not paid, 1 = paid) for 15 students:

1
0
1
1
1
1
0
0
0
0
1
0
1
1
1

Enter delay in months for each student:

2
3
2
1
1
1
1
1
1
1
2
3
4
2

No.	Status	Fine	Remark
1	Paid	0	Cleared
2	Unpaid	1000	Defaulter
3	Paid	0	Cleared
4	Paid	0	Cleared
5	Paid	0	Cleared
6	Paid	0	Cleared
7	Unpaid	500	Defaulter
8	Unpaid	500	Defaulter
9	Unpaid	500	Defaulter
10	Unpaid	500	Defaulter
11	Unpaid	500	Defaulter
12	Paid	0	Cleared
13	Unpaid	1000	Defaulter
14	Paid	0	Cleared
15	Paid	0	Cleared

Total fine collected: Rs. 4500

Process exited after 27.82 seconds with return value 0
Press any key to continue . . .

Q4

```
#include <stdio.h>

int main(){
    int units[10], i, bill[10], high = 0, total = 0;
    for(i = 0; i < 10; i++){
        printf("Enter units used: ");
        scanf("%d", &units[i]);
        if(units[i] <= 200){
            bill[i] = units[i] * 15;
            total = total + bill[i];
        }
        else if(units[i] > 200 && units[i] <= 500){
            bill[i] = units[i] * 20;
            total = total + bill[i];
        }
        else if(units[i] > 500){
            bill[i] = units[i] * 25;
            total = total + bill[i];
        }
        if(units[i] > 700){
            high = high + 1;
        }
    }
    printf("-----\n");
    printf("House\tUnits\tBill\tConsumption\n");
    printf("-----\n");

    for(i = 0; i < 10; i++){
        if(units[i] > 700){
            printf("%d\t%d\t%d\tHigh\n", i + 1, units[i], bill[i]);
        }
        else{
            printf("%d\t%d\t%d\tNormal\n", i + 1, units[i], bill[i]);
        }
    }
    printf("Total revenue: %d", total);
    return 0;
}
```

```
C:\Users\ALISHBA\Desktop\U x + v

Enter units used: 100
Enter units used: 200
Enter units used: 300
Enter units used: 400
Enter units used: 500
Enter units used: 600
Enter units used: 700
Enter units used: 800
Enter units used: 900
Enter units used: 1000
-----
House    Units    Bill      Consumption
-----
1         100      1500      Normal
2         200      3000      Normal
3         300      6000      Normal
4         400      8000      Normal
5         500      10000     Normal
6         600      15000     Normal
7         700      17500     Normal
8         800      20000     High
9         900      22500     High
10        1000     25000     High
Total revenue: 128500
-----
Process exited after 17.33 seconds with return value 0
Press any key to continue . . .
```

Q5

Untitled2.c

```
#include <stdio.h>

int main(){
    int stu[6], i, total = 0;
    int invigilator[6], Tinvigilator = 0;

    for(i = 0; i < 6; i++){
        printf("Enter number of students in section %d: ", i + 1);
        scanf("%d", &stu[i]);

        if(stu[i] <= 30){
            invigilator[i] = 1;
            Tinvigilator = Tinvigilator + invigilator[i];
            total = total + stu[i];
        }
        else if(stu[i] > 30 && stu[i] <= 60){
            invigilator[i] = 2;
            Tinvigilator = Tinvigilator + invigilator[i];
            total = total + stu[i];
        }
        else if(stu[i] > 60){
            invigilator[i] = 3;
            Tinvigilator = Tinvigilator + invigilator[i];
            total = total + stu[i];
        }
    }

    printf("-----\n");
    printf("Section\tStudents\tInvigilator\n");
    printf("-----\n");

    for(i = 0; i < 6; i++){
        printf("%d\t\t%d\t\t%d\n", i + 1, stu[i], invigilator[i]);
    }

    printf("-----\n");

    if(total > 300){
        printf("Assign Chief Invigilator.\n");
    }
    else{
        printf("No Chief Invigilator assigned.\n");
    }

    return 0;
}
```

C:\Users\ALISHBA\Desktop\Untitled2.c - [Executing] - Dev-C++ 5.11

```
File C:\Users\ALISHBA\Desktop\U x + v
Proc Enter number of students in section 1: 60
Enter number of students in section 2: 70
Enter number of students in section 3: 30
Enter number of students in section 4: 20
Enter number of students in section 5: 34
Enter number of students in section 6: 45

-----
Section Students      Invigilator
-----
1          60          2
2          70          3
3          30          1
4          20          1
5          34          2
6          45          2
-----

No Chief Invigilator assigned.

-----
Process exited after 12.94 seconds with return value 0
Press any key to continue . . .
```

Q6

ntitled.c

```
#include <stdio.h>

int main()
{
    int posts[10], i, avg, sum = 0, high_post = 0, streak = 0;
    for(i=0; i<10; i++)
    {
        printf("Enter # of posts on day %d : ", i+1);
        scanf("%d", &posts[i]);
        if (posts[i] > high_post)
        {
            high_post = posts[i];
        }
        sum = sum + posts[i];
    }

    avg = sum / 10;
    for(i=0; i<8; i++)
    {
        if (posts[i+1] > posts[i] && posts[i+1] < posts[i+2])
        {
            streak = streak + 1;
        }
    }

    printf("-----\n");
    printf("Days\t\tPostsv\n");
    printf("-----\n");
    for(i=0; i<10; i++)
    {
        printf("%d\t\t%d\n", i+1, posts[i]);
    }

    printf("-----\n");
    printf("Highest post in a day : %d\n", high_post);
    printf("Average of 10 days : %d\n", avg);
    if(streak == 0)
    {
        printf("No streak found.\n");
    }
    else
    {
        printf("Streaks found : %d", streak);
    }

    return 0;
}
```

```
C:\Users\ALISHBA\Desktop\U  ×  +  ▾

Enter # of posts on day 1 : 5
Enter # of posts on day 2 : 3
Enter # of posts on day 3 : 2
Enter # of posts on day 4 : 6
Enter # of posts on day 5 : 7
Enter # of posts on day 6 : 1
Enter # of posts on day 7 : 0
Enter # of posts on day 8 : 4
Enter # of posts on day 9 : 3
Enter # of posts on day 10 : 8
-----
Days          Postsv
-----
1             5
2             3
3             2
4             6
5             7
6             1
7             0
8             4
9             3
10            8
-----
Highest post in a day : 8
Average of 10 days : 3
Streaks found : 1
-----
Process exited after 46.95 seconds with return value 0
Press any key to continue . . .
```

Q7

Intitled2.c

```
#include <stdio.h>

int main()
{
    int mileage[8], i, need = 0;
    for(i=0; i<8; i++)
    {
        printf("Enter mileage of car %d : ", i+1);
        scanf("%d", &mileage[i]);
        if(mileage[i] >= 18)
        {
            printf("Efficient.\n");
        }
        else if (mileage[i] >= 12 && mileage[i] <= 17)
        {
            printf("Average\n");
        }
        else if (mileage[i] < 12)
        {
            printf("Needs Maintainance.\n");
            need = need + 1;
        }
    }

    printf("-----\n");
    printf("Car\t\t Milage\n");
    printf("-----\n");
    for(i=0; i<8; i++)
    {
        printf("%d\t\t %d\n", i+1, mileage[i]);
    }

    if(need > 3)
    {
        printf("Fleet Efficiency Alert!\n");
    }

    return 0;
}
```

```
C:\Users\ALISHBA\Desktop\U x + v
Average
Enter mileage of car 2 : 15
Average
Enter mileage of car 3 : 17
Average
Enter mileage of car 4 : 18
Efficient.
Enter mileage of car 5 : 11
Needs Maintainance.
Enter mileage of car 6 : 20
Efficient.
Enter mileage of car 7 : 11
Needs Maintainance.
Enter mileage of car 8 : 1
Needs Maintainance.
-----
Car          Milage
-----
1            12
2            15
3            17
4            18
5            11
6            20
7            11
8            1
-----
Process exited after 37.57 seconds with return value 0
Press any key to continue . . .
```