

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. + ▾
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

```
Untitled1 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\ALISRIBA\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        } else {
22            if (delay[i] == 1)
23                fine[i] = 500;
24            else if (delay[i] >= 2)
25                fine[i] = 1000;
26            else
27                fine[i] = 0;
28
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  
0  
1  
0  
1  
1  
Enter delay in months for each student:  
2  
3  
2  
1  
1  
1  
1  
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 + ▾
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%d\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
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

```
untitled2.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<9;i++)
    {
        if (posts[i+1] > posts[i] && posts[i+1] < posts[i+2])
        {
            streak = streak + 1;
        }
    }

    printf("-----\n");
    printf("Days\tPosts\n");
    printf("-----\n");
    for(i=0;i<10;i++)
    {
        printf("%d\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 x + | v

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      Posts
-----
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 Maintenance.\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 + ▾
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 Maintenance.
Enter mileage of car 6 : 20
Efficient.
Enter mileage of car 7 : 11
Needs Maintenance.
Enter mileage of car 8 : 1
Needs Maintenance.
-----
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 . . .
```