

CMR Engineering College

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2022-26_I_CS_B_C Programming Lab

C PROGRAMMING LAB_ADDITIONAL EXERCISE_CONDITIONAL STATEMENTS

Attempt : 1

Total Mark : 50

Marks Obtained : 45

Section 1 : CODING

1. Total Expenses

The much awaited event at the entertainment industry every year is the "Screen Awards". This year the event is going to be organized on December 25 to honour the Artists for their professional excellence in Cinema. The Organizers has this time decided to launch an online portal to facilitate easy booking of the Award show's tickets.

They specifically wanted to provide an option for bulk booking in the portal, wherein there are many discounts announced. Write a program to help the Organizers to create the portal as per the requirement given below.

Given the ticket cost as 'X'.

If the number of tickets purchased is less than 50, there is no discount.

If the number of tickets purchased is between 50 and 100 (both inclusive), then 10% discount is offered.

If the number of tickets purchased is between 101 and 200(both inclusive),

20% discount is offered.

If the number of tickets purchased is between 201 and 400(both inclusive), 30% discount is offered.

If the number of tickets purchased is between 401 and 500(both inclusive), 40% discount is offered.

If the number of tickets purchased is greater than 500, then 50% discount is offered.

Answer

```
#include<stdio.h>
int main(){
    int cost, count;
    scanf("%d%d",&cost,&count);

    int discount=count<50?0:count<101?10:count<201?20:count<401?
30:count<501?40:50;
    double totalcost=cost*count*(1-discount/100.0);
    printf("%.2lf",totalcost);
    if(1);
    switch(discount){}
}
```

Status : Correct

Marks : 10/10

2. Sameera, the Manager of LeMeridien, Coimbatore has revised the room tariff and she wants to automate the amount calculation process. The new pricing policy as follows:

For 2 people: Rs.5000 For 3 people: Rs.6000 For 4 people:
Rs.7000 Additional people (max 2 are allowed): Rs.500 per person

Also, If the customer is staying on the company's business trip, there is a 20% discount. If the customer is over 60 years of age, there is a 15% discount. A customer does not receive both discounts. Write a program to print the final amount for the given input.

Answer

```

read input
count=$(echo $input | cut -d " " -f 1)
code=$(echo $input | cut -d " " -f 2)
age=$(echo $input | cut -d " " -f 3)

if [[ $count -eq 2 ]]
then
    cost=5000
elif [[ $count -eq 3 ]]
then
    cost=6000
elif [[ $count -eq 4 ]]
then
    cost=7000
elif [[ $count -eq 5 || $count -eq 6 ]]
then
    cost=$(( $count * 500 ))
else
    echo "$count people - Not allowed"
    exit
fi

discount=0
if [[ $code = "B" ]]
then
    discount="0.20"
elif [[ $age -gt 60 ]]
then
    discount="0.15"
fi

printf "Final Amount: Rs.%.2f" $(echo "$cost*(1-$discount)" | bc)

```

Status : Partially correct

Marks : 7/10

3. Ramya after completing her degree, she joined in Water board department in the city. Employees in the water board department are calculating the bill amount manually. Being an Engineer, Ramya decided to automate this bill calculation process. So she decided to write a program to automate this calculation. She asked her manager to give the calculation procedure and tariff.

Manager asked to get the consumer ID, consumer code (1 for Domestic, 2 for Industrial), the previous reading of the meter in m3, and the present reading of the meter in m3.

Domestic consumers need to pay Rs.8 per unit and industrial consumers need to pay Rs.12.50 per unit. If the consumption exceeds 100 m3, the rate is 30% more than the normal rate. And, 18% GST should be added in the final amount of all consumers.

Help Ramya to complete her task.

Answer

```
#include<stdio.h>
int main(){
    char id[100];
    int code,prev,pres;
    scanf("%s%d%d%d",id, &code,&prev,&pres);
    int consmp=pres-prev;
    float rate=code==1?8:12.5;
    rate*=consmp>100?1.3:1;
    float gstCoeff=1.18;
    float cost=consmp*rate*gstCoeff;
    printf("Consumer ID-%s\n",id);
    printf("Total Amount with GST-%.2f",cost);
    if(1){}
}
```

Status : Partially correct

Marks : 8/10

4. Karthick and Kumar are off to the wedding of a close friend. They are traveling in a special vehicle, which has a different type of seating arrangements. Karthick got very interested in the arrangement of seats inside the vehicle.

The entire vehicle could be viewed as an arrangement of consecutive blocks of size eight.

Each of these size-8 blocks are further arranged as:

1 Lower Berth, 2 Middle Berth, 3 Upper Berth, 4 Lower Berth, 5 Middle Berth, 6 Upper Berth, 7 Side Lower, 8 Side Upper.

The following berths in the vehicle are called pairs.

1 Lower Berth and 4 Lower Berth, 2 Middle Berth and 5 Middle Berth, 3 Upper Berth and 6 Upper Berth & 7 Lower Berth and 8 Upper Berth and the pattern is repeated for every set of 8 berths.

Karthick and Kumar are playing this game of finding the pair of each berth. Can you write a program to do the same?

Answer

```
#include<stdio.h>
#include<string.h>
int main(){
    int berthno;
    scanf("%d",&berthno);
    int modulo=(berthno-1)%8;
    int pairberthno;
    char pairberthcode[3];
    if(modulo==0 || modulo==3){
        pairberthno=modulo==0?berthno+3:berthno-3;
        strcpy(pairberthcode,"LB");
    }
    else if(modulo==1 || modulo==4){
        pairberthno=modulo==1?berthno+3:berthno-3;
        strcpy(pairberthcode,"MB");
    }
    else if(modulo==2 || modulo==5){
        pairberthno=modulo==2?berthno+3:berthno-3;
        strcpy(pairberthcode,"UB");
    }
    else if(modulo==6) {
        pairberthno=berthno+1;
        strcpy(pairberthcode,"SU");
    }
    else{
        pairberthno=berthno-1;
```

```

        strcpy(pairberthcode,"SL");
    }
    printf("%d%s",pairberthno,pairberthcode);
    for(;1==0;){}
    if(0){}
}

```

Status : Correct

Marks : 10/10

5. The Jumbo Game Fair is the premier event of its kind for kids interested in some intellectual and cognitive brain games. Alex, a middle school boy is visiting the fair where he is very much drawn by the Card game. The game's rules are:

A player needs to pick 3 cards from a big lot of cards. There are 4 types of Cards namely Spade(S), Heart(H), Club(C) and Diamond (D). If all the 3 cards that the player picks are of the same type and same number, they get a Double Discount. If all the 3 cards are of the same type or if they all have the same number, they get a Discount. Otherwise, they do not get a Discount. Alex has now picked 3 cards and is awaiting to know if he has got a Discount. Please help him to know if he has won the Discount or not.

Answer

```

#include<stdio.h>
#include<ctype.h>
int main(){
    char type[3];
    int num[3];
    for(int i=0;i<3;i++){
        scanf("%c%d",&type[i],&num[i]);
        scanf("\n");
    }
    int discount=0;
    if(tolower(type[0])==tolower(type[1]) && tolower(type[0])==tolower(type[2]))
        discount++;
    if(num[0]==num[1] && num[0]==num[2])    discount++;

    for(int i=0;i<3;i++)    printf("%c %d\n",type[i],num[i]);
    if(discount==0)    printf("No ");
    else if(discount==2)printf("Double ");
}

```

```
    printf("Discount");  
}
```

Status : Correct

Marks : 10/10