

# CMR Engineering College

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## 2022-26\_I\_CS\_B\_C Programming Lab

### C PROGRAMMING LAB\_ADDITIONAL EXERCISE\_OPERATORS

Attempt : 1  
Total Mark : 50  
Marks Obtained : 43

#### Section 1 : CODING

1. Sylvia is researching about the various calendars followed and finds that there are two types of calendars: Gregorian and Julian. People started following the Gregorian calendar from 1918 i.e. the day after January 1st was February 14. So that year 13 days was cut off from the calendar. However, the concept of leap year was followed in both the calendars. She was fascinated by this discovery and decided to play with it.

The day she found this was the 256th day of the year. Now, she wants to find out the date of the 256th date of the years according to the Gregorian and Julian Calendar. Based on the year, write a code to print the corresponding date.

#### **Answer**

```
// You are using GCC
#include<stdio.h>
int main(){
    int year;
    scanf("%d",&year);
    if(year%400==0 || (year%4==0 && year%100!=0)) printf("12.09.%d",year);
    else printf("13.09.%d",year);
}
```

**Status :** Correct

**Marks :** 10/10

2. There are 26 alphabets in English. Each alphabet can be coded or decoded using a number. When a string is given in raw form, you have to code it in such a way that each character is represented by a number representing its position in the English alphabet list i.e., a=1, b=2, c=3, etc.

**Answer**

```
#include<stdio.h>
#include<ctype.h>
#include<string.h>
int main(){
    char str[101];
    scanf("%s",str);
    int tonum;
    for(int i=0; i<strlen(str);i++){
        if(str[i]<33) tonum = str[i];
        else if(str[i]<64) tonum = str[i]-32;
        else if(str[i]<96) tonum = str[i]-64;
        else tonum = str[i]-96;
        printf("%d",tonum);
        if(i!=strlen(str)-1) printf(" ");
    }
}
```

**Status :** Correct

**Marks :** 10/10

### 3. Total Expenses for the Event

The prime functionality of an Event Management System is budgeting. An Event Management System should estimate the total expenses incurred by an event and the percentage rate of each of the expenses involved in planning and executing an event. Nikhil, the founder of "Pine Tree" wanted to include this functionality in his company's Proton Event Management System and requested your help in writing a program for the same.

The program should get the branding expenses, travel expenses, food expenses and logistics expenses as input from the user and calculate the total expenses for an event and the percentage rate of each of these

expenses.

**Answer**

```
// You are using GCC
#include<stdio.h>
int main(){
    double brand,travel,food,logist,total;
    scanf("%lf %lf %lf %lf",&brand,&travel,&food,&logist);
    total=brand+travel+food+logist+total;
    double brandPer,travelPer,foodPer,logistPer;
    brandPer=brand*100/total;
    travelPer=travel*100/total;
    foodPer =food*100/total;
    logistPer=logist*100/total;
    printf("Total expenses :Rs.%.2f\n",total);
    printf("Branding expenses percentage :%.2f%%\n",brandPer);
    printf("Travel expenses percentage :%.2f%%\n",travelPer);
    printf("Food expenses percentage :%.2f%%\n",foodPer);
    printf("Logistics expenses percentage :%.2f%%",logistPer);

}
```

**Status :** Correct

**Marks :** 10/10

4. Krishna is an sen-sex officer. He is involved in taking the survey about the village's total population, literacy percentage, men population and men literacy percentage.

Finally he got a list of report for various villages with the above data.

Write a program to calculate the following,

total population of men in village, total population of women in village, total population of literates in village, total population of illiterates in village, total population of men literates in village, total population of women literates in village, total population of illiterate men and women in village.

**Answer**

```
#include<stdio.h>
int main(){
```

```

int pop;
float percLit,percMen,percLitMen;
scanf("%d%f%f%f",&pop,&percLit,&percMen,&percLitMen);
float popMen,popWo,popLit,popIllit,popLitMen,popLitWo;
float popIllitMen,popIllitWo;
popMen=pop*(percMen/100.0);
popWo=pop-popMen;
popLit=pop*(percLit/100.0);
popIllit=pop-popLit;
popLitMen=pop*(percLitMen/100.0);
popLitWo=popLit-popLitMen;
popIllitMen=popMen-popLitMen;
popIllitWo=popWo-popLitWo;
printf("Men population=%.0f; Women population=%.0f\n", popMen, popWo);
printf("Literates=%.0f; Illiterates=%.0f\n", popLit, popIllit);
printf("Men literates=%.0f; Women literates=%.0f\n",popLitMen,popLitWo);
printf("Men illiterates=%.0f; Women illiterates=%.0f",popIllitMen,popIllitWo);
}

```

**Status :** Partially correct

**Marks :** 3/10

5. Sundar is fascinated by clocks. Suddenly it stuck him that the hours and minutes hands of the clock form a sector with specified angle. For every timing, he sits and calculates the angle formed by the two hands of the clock. In order to prove his answers, he asks you to write a code to do the same operation.

**Answer**

```

#include<stdio.h>
#include<math.h>
int main(){
    float hour,minute;
    scanf("%f %f",&hour,&minute);
    if(hour>=0) hour = (int)hour%12;
    if(minute>=0){
        if(minute==60) hour+=1;
        minute = (int)minute%60;
    }
}

```

```
float angle=abs((hour+minute/60)*30-minute*6);  
angle = angle-180>0?360-angle:angle;  
printf("%.0f",angle);  
}
```

**Status :** Correct

**Marks :** 10/10