Assignment-8

1. Write a program to check whether a given number is divisible by 3 and divisible by 2.
2. Write a program to check whether a given number is divisible by 7 or divisible by 3.
3. Write a program to check whether a given number is positive, negative or zero.
4. Write a program to check whether a given year is a leap year or not.
5. Write a program to find greater among three numbers. If two or three numbers are identical and greatest among all then print it only once.
6. Write a program to check whether a given character is an alphabet (uppercase), an alphabet (lower case), a digit or a special character.
7. Write a program which takes the length of the sides of a triangle as an input. Display whether the triangle is valid or not.
8. Write a program which takes the month number as an input and display number of days in that month.
9. Write a program to find the nature of roots of a quadratic equation.
10. Write a C program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:  
    Percentage >= 90% : Grade A  
    Percentage >= 80% : Grade B  
    Percentage >= 70% : Grade C  
    Percentage >= 60% : Grade D  
    Percentage >= 40% : Grade E  
    Percentage < 40% : Grade F

Ans1:

#include<stdio.h>

#include<conio.h>

int main()

{

    int a;

    printf("Enter a number: ");

    scanf("%d",&a);

    if(a%3==0 && a%2==0)

    {

        printf("Divisible by 2 and 3");

    }

    else

    {

        printf("Not divisible by 2 and 3");

    }

    getch();

}

Ans2:

#include<stdio.h>

#include<conio.h>

int main()

{

    int a;

    printf("Enter a number: ");

    scanf("%d",&a);

    if(a%3==0 &&a%7==0)

    printf("Divisible by both 3 and 7.");

    else if(a%3==0)

    printf("Divisible by 3.");

    else if(a%7==0)

    printf("Divisible by 7.");

    else

    printf("Neither divisible by 7 nor 3");

    getch();

}

Ans3:

#include<stdio.h>

#include<conio.h>

int main()

{

    int a;

    printf("Enter a number: ");

    scanf("%d",&a);

    if(a>0)

    printf("Given number is positive.");

    else if(a<0)

    printf("Given number is negative.");

    else

    printf("Given number is zero .");

    getch();

}

Ans4:

#include<stdio.h>

#include<conio.h>

int main()

{

    int year;

    printf("Enter a year to check if it is a leap year\n");

    scanf("%d", &year);

    if ( year%400 == 0)

    printf("%d is a leap year.\n", year);

    else if ( year%100 == 0)

    printf("%d is not a leap year.\n", year);

    else if ( year%4 == 0 )

    printf("%d is a leap year.\n", year);

    else

    printf("%d is not a leap year.\n", year);

    getch();

}

Ans5:

#include<stdio.h>

#include<conio.h>

int main()

{

    int a,b,c;

    printf("Enter three numbers: ");

    scanf("%d %d %d",&a,&b,&c);

    if(a>b && a>c)

    printf("%d is greater",a);

    else if(b>a && b>c)

    printf("%d is greater",b);

    else if(c>a && c>b)

    printf("%d is greater",c);

    else if(a==b==c)

    printf("%d is greater",a);

    else if(a==b && a>c)

    printf("%d is greater",a);

    else if(a==b && c>a)

    printf("%d is greater",c);

    else if(b==c && a>b)

    printf("%d is greater",a);

    else if(b==c && b>a)

    printf("%d is greater",b);

    else if(a==c && a>b)

    printf("%d is greater",a);

    else if(a==c && b>a)

    printf("%d is greater",b);

    getch();

}

Ans6:

#include<stdio.h>

#include<conio.h>

int main()

{

    char c;

    printf("Enter a character:");

    scanf("%c",&c);

    if(c>='a' && c<='z')

    printf("Lower case");

    else if(c>='A' && c<='Z')

    printf("Upper case");

    else if (c>='0' && c<='9')

    printf("Digit");

    else

    printf("Special character");

    getch();

}

Ans7:

#include<stdio.h>

#include<conio.h>

int main()

{

    int a, b,c;

    printf("Enter sides of triangle: ");

    scanf("%d %d %d",&a,&b,&c);

    if(a+b>c && b+c>a && a+c>b)

    printf("valid triangle");

    else

    printf("Not a valid triangle");

    getch();

}

**Ans8:**

#include<stdio.h>

#include<conio.h>

int main()

{

    int a;

    printf("Enter number of month: ");

    scanf("%d",&a);

    if(a==1)

    printf("31");

    else if(a==2)

    printf("28");

    else if(a==3)

    printf("31");

    else if(a==4)

    printf("30");

    else if(a==5)

    printf("31");

    else if(a==6)

    printf("30");

    else if(a==7)

    printf("31");

    else if(a==8)

    printf("31");

    else if(a==9)

    printf("30");

    else if(a==10)

    printf("31");

    else if(a==11)

    printf("30");

    else if(a==12)

    printf("31");

    else

    printf("Not a month number\nplease enter again........");

    getch();

}

Ans9:

#include<stdio.h>

#include<conio.h>

int main()

{

    int a,b,c,D;

    printf("Enter coefficients of equation: ");

    scanf("%d %d %d",&a,&b,&c);

    D=((b\*b)-(4\*a\*c));

    if(D==0)

    printf("Equal roots.");

    else if(D>0)

    printf("Distincts roots.");

    else

    printf("Imaginary roots");

    getch();

}

Ans10:

#include<stdio.h>

#include<conio.h>

int main()

{

    float totm,phy,chem,math,bio,comp,perc;

    printf("Enter marks:\n");

    printf("Physics: ");

    scanf("%f",&phy);

    printf("Chemistry: ");

    scanf("%f",&chem);

    printf("Mathematics: ");

    scanf("%f",&math);

    printf("Biology: ");

    scanf("%f",&bio);

    printf("Computer: ");

    scanf("%f",&comp);

    totm=phy+chem+math+bio+comp;

    perc=totm/5.0;

    if(perc>=90)

    printf("Percentage=%f%% and A grade.",perc);

    else if(perc>=80)

    printf("Percentage=%f%% and B grade.",perc);

    else if(perc>=70)

    printf("Percentage=%f%% and C grade.",perc);

    else if(perc>=60)

    printf("Percentage=%f%% and D grade.",perc);

    else if(perc>=40)

    printf("Percentage=%f%% and E grade.",perc);

    else

    printf("Percentage=%f%% and F grade. ",perc);

    getch();

}