**ASSIGNMENT 8**

***Q1. Write a program to check whether a given number is divisible by 3 and divisible by 2.***

*#include <stdio.h>*

*int main()*

*{*

*int num;*

*scanf("%d",&num);*

*if(num%3==0 && num%2==0)*

*{*

*printf("It is divisible by 2 and 3.");*

*}*

*else*

*{*

*printf("It is not divisible.");*

*}*

*return 0;*

*}*

***Q2. Write a program to check whether a given number is divisible by 7 or divisible by 3.***

*#include <stdio.h>*

*int main()*

*{*

*int num;*

*scanf("%d",&num);*

*if(num%3==0 || num%7==0)*

*{*

*printf("It is divisible by 3 or 7.");*

*}*

*else*

*{*

*printf("It is not divisible.");*

*}*

*return 0;*

*}*

***Q3. Write a program to check whether a given number is positive, negative or zero.***

*#include <stdio.h>*

*int main()*

*{*

*int num;*

*scanf("%d",&num);*

*if(num>0)*

*{*

*printf("It is positive.");*

*}*

*else if(num<0)*

*{*

*printf("It is negative.");*

*}*

*else*

*{*

*printf("The number is zero.");*

*}*

*return 0;*

*}*

***Q4. Write a program to check whether a given year is a leap year or not.***

*#include <stdio.h>*

*int main()*

*{*

*int year;*

*scanf("%d",&year);*

*if (year%400==0)*

*{*

*printf("It is a leap year.");*

*}*

*else*

*{*

*if(year%100==0)*

*{*

*printf("It is not a leap year.");*

*}*

*else*

*{*

*if(year%4==0)*

*printf("It is a leap year.");*

*else*

*printf("It is not a leap year.");*

*}*

*}*

*return 0;*

*}*

***Q5. 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.***

*#include <stdio.h>*

*int main()*

*{*

*int a,b,c;*

*scanf("%d%d%d",&a,&b,&c);*

*if (a>=b && a>=c)*

*{*

*printf("%d is greatest.",a);*

*}*

*else*

*{*

*if(b>=c)*

*{*

*printf("%d is greatest.",b);*

*}*

*else*

*{*

*printf("%d is greatest.",c);*

*}*

*}*

*return 0;*

*}*

***Q6. Write a program to check whether a given character is an alphabet (uppercase), an alphabet (lower case), a digit or a special character.***

*#include <stdio.h>*

*int main()*

*{*

*char ch;*

*scanf("%c",&ch);*

*if(ch>='A' && ch<='Z')*

*{*

*printf("It is uppercase.");*

*}*

*else if(ch>='a' && ch<='z')*

*{*

*printf("It is lowercase.");*

*}*

*else*

*{*

*printf("It is a special character.");*

*}*

*return 0;*

*}*

***Q7. Write a program which takes the length of the sides of a triangle as an input. Display whether the triangle is valid or not.***

*#include <stdio.h>*

*int main()*

*{*

*int s1,s2,s3;*

*scanf("%d%d%d",&s1,&s2,&s3);*

*if ((s1+s2>s3) && (s2+s3>s2) &&(s1+s3>s2))*

*{*

*printf("Triangle is valid.");*

*}*

*else*

*{*

*printf("Triangle is not valid.");*

*}*

*return 0;*

*}*

***Q8. Write a program which takes the month number as an input and display number of days in that month****.*

*#include <stdio.h>*

*int main()*

*{*

*int m;*

*scanf("%d",&m);*

*if (m==1 || m==3 ||m==5 ||m==7 ||m==8 || m==10 || m==12)*

*{*

*printf("It has 31 days.");*

*}*

*else if(m==4 || m==6 ||m==9 || m==11)*

*{*

*printf("It has 30 days.");*

*}*

*else if(m==2)*

*{*

*printf("It has 28 or 29 days.");*

*}*

*else*

*{*

*printf("Invalid month number.");*

*}*

*return 0;*

*}*

***Q9. Write a program to find the nature of roots of a quadratic equation.***

*#include <stdio.h>*

*#include <math.h>*

*int main()*

*{*

*float a,b,c,r1,r2,d;*

*scanf ("%f %f %f", &a, &b, &c);*

*d=b\*b-4\*a\*c;*

*if (d>0){*

*r1 = -b+sqrt (d) / (2\*a);*

*r2 = -b-sqrt (d) / (2\*a);*

*printf ("The real roots = %f %f", r1, r2);*

*}*

*else if (d==0){*

*r1 = -b/(2\*a);*

*r2 = -b/(2\*a);*

*printf ("roots are equal =%f %f", r1, r2);*

*}*

*else*

*printf("Roots are imaginary");*

*return 0;*

*}*

***Q10. 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***

*#include <stdio.h>*

*int main()*

*{*

*int phy, chem, bio, math, comp,total;*

*float per;*

*scanf("%d%d%d%d%d",&phy,&chem,&bio,&math,&comp);*

*total=phy+chem+bio+math+comp;*

*per=(float)total/500\*100;*

*if(per>=90.0)*

*printf("Grade A");*

*else if(per>=80 && per<90)*

*printf("Grade B");*

*else if(per>=70 && per<80)*

*printf("Grade C");*

*else if(per>=60 && per<70)*

*printf("Grade D");*

*else if(per>=40 && per<60)*

*printf("Grade E");*

*else*

*printf("Grade F");*

*return 0;*

*}*