**Assignment-3 c-programming**

**Decision Control Statements**

// 1. Write a program to check whether a given number is positive or non-positive

#include<stdio.h>

int main()

{

    int a;

    printf("enter a number");

    scanf("%d",&a);

    if(a>0)

    {

        printf("postive");

    }

    if(a<=0)

    {

        printf("non-potive");

    }

    printf("%d =",a);

    return 0;

}

// 2. Write a program to check whether a given number is divisible by 5 or not

#include<stdio.h>

int main()

{

    int a;

    printf("enter a no");

    scanf("%d",&a);

    if(a%5==0)

    {

        printf("divisible by 5");

    }

    else{

        printf("not divisible by 5");

    }

    return 0;

}

// 3. Write a program to check whether a given number is an even number or an odd

// number

#include<stdio.h>

int main()

{

    int a;

    printf("enter a no");

    scanf("%d",&a);

    if(a%2==0)

    {

        printf("even no");

    }

    else

    {

   printf("odd no");

    }

    return 0;

}

// 4. Write a program to check whether a given number is an even number or an odd

// number without using % operator.

#include<stdio.h>

int main()

{

    int a;

    printf("enetr a no");

    scanf("%d",&a);

    if(a&1==1)

    {

        printf("odd number");

    }

    else{

        printf("even no");

    }

    return 0;

}

// 5. Write a program to check whether a given number is a three-digit number or not.

#include<stdio.h>

int main()

{

    int a;

    printf("enete a number");

    scanf("%d",&a);

    if(a>99 && a<1000)

    {

        printf("three digit no");

    }

    else{

        printf(" not three digit no");

    }

    return 0;

}

// 6. Write a program to print greater between two numbers. Print one number of both are

// the same.

#include<stdio.h>

int main()

{

    int num1,num2;

    num1=11;

    num2=12;

    if(num1<num2)

    {

        printf("greter numbernum2= %d",num2);

    }

    if(num1==num2)

    {

        printf("both are not same ");

    }

    else{

         printf("\n");

        printf("both are same");

    }

    return 0;

}

// 7. Write a program to check whether roots of a given quadratic equation are real &

// distinct, real & equal or imaginary roots

#include<stdio.h>

int main()

{

    int a,b,c,d;

    float x,y;

    printf("enetr a cofficient and contant term ");

    scanf("%d%d%d",&a,&b,&c);

    d=b\*b-4\*a\*c;

   if(d<0)

   {

    printf("both are imaginer");

   }

   if(d==0)

   {

    printf( "both root are equal");

    x=-b/(2.0\*a);

    printf("root is %f",x);

   }

   if(d>0)

    {

        printf("root are equal disyinct");

        x=(-b+(d)/(2\*a));

        x=(-b-(d)/(2\*a));

        printf("in root are %f %f",x,y);

    }

    return 0;

}

// 8. Write a program to check whether a given year is a leap year or not.

#include<stdio.h>

int main()

{

    int year;

    printf("enter a year ");

    scanf("%d",&year);

    if(year % 400 == 0)

    {

        printf("it a leap year %d",year);

    }

    else if(year % 100 == 0)

    {

        printf("its not a leap year %d",year);

    }

    else if(year%4==0)

    {

        printf("its a leap year %d",year);

    }

 else{

       printf(" %dits  not a leap year",year);

 }

    return 0;

}

// 9. Write a program to find the greatest among three given numbers. Print number once

// if the greatest number appears two or three times.

#include<stdio.h>

int main()

{

    int A,B,C;

    printf("Enter the numbers A, B and C: ");

    scanf("%d %d %d", &A, &B, &C);

    if (A >= B && A >= C)

        printf("%d is the greate number.", A);

    if (B >= A && B >= C)

        printf("%d is the greater number.", B);

    if (C >= A && C >= B)

        printf("%d is the greater  number.", C);

return 0;

}

// ques10 write a programme whicjh takes a  the cost price and selling price of a product from

// the user now calculate and print  profit or loss percnetage

#include<stdio.h>

int main()

{

    int cp, sp ;

    float per;

    printf("enete a selling price  ");

    scanf ("%d",&sp);

    printf("enete a cp price  ");

    scanf ("%d",&cp);

    if(sp>cp)

    {

        printf("%d proffit\n",cp-sp);

        per= (sp\*100)/cp;

        printf("%f%%\n ",per);

    }

    else

    {

        printf("%d losse\n",sp-cp);

        per=(cp\*100)/sp;

        printf("%f%% \n",per);

    }

    return 0;

}

//  ques11= write a programme to take make of 5 subject from the user asssume m

// arks are given out of 100 and passing mark is 33 now display whtehr the candite passed the exammination or failled

#include<stdio.h>

int main()

{

    int hindi,sci,eng,bio,phy ,total;

    float per;

    printf("enetr a marks");

    scanf("%d%d%d%d%d",&hindi,&sci,&eng,&bio,phy);

    total=hindi+sci+eng+bio+phy;

printf("/n total amrk of student =%d\n",total);

    if(hindi>=33&&sci>=33&&eng>=33&&bio>=33&phy>=0)

    {

        printf("student is a passed\n");

       per =total/5.0;

       printf("%.2f",per);

    }

    else{

        printf("studengt is  failed");

    }

  re

// 12. Write a program to check whether a given alphabet is in uppercase or lowercase.

#include<stdio.h>

int main()

{

    char ch;

    printf("enetr a alphabte");

    scanf("%c",&ch);

    if(ch>='A'&&ch<='Z')

    {

        printf("UPPERCASE");

    }

    else

    {

        printf("LOWECASE");

    }

    return 0;

}

// 13. Write a program to check whether a given number is divisible by 3 and divisible by 2.

#include<stdio.h>

int main()

{

    int x;

    printf("enter a no");

    scanf("%d",&x);

    // printf("enetr a no");

    // scanf("%d",&y);

    if(x%3==0)

    {

        printf("divisible by 3 ");

    }

    else if

      (x%2==0)

    {

        printf("divisible by 2 "

        );

      }

    else{

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

    }

    return 0;

}

// 14. Write a program to check whether a given number is divisible by 7 or divisible by 3

#include<stdio.h>

int mani()

{

    int x;

    printf("enetr a no");

    scanf("%d",&x);

    if(x%7==0)

    {

        printf("divisible by 7");

    }

    else if(x%3==0)

    {

        printf("divisible by 3");

    }

    else{

        printf("its not divisible by 7 and 3");

    }

    return 0;

}

// 15. Write a program to check whether a given number is positive, negative or zero.

#include<stdio.h>

int main()

{

    int x;

    printf("enetr a no");

    scanf("%d",&x);

    if(x>0)

    {

        printf("postive no");

    }

    else if(x<0)

    {

        printf("nagative no");

    }

    else{

        printf("zero no");

    }

    return 0;

}

// 16. 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;

    printf("enter a charcter");

    scanf("%c",&ch);

    if(ch>='A' && ch<='Z')

    {

        printf("UPPERCASE");

    }

    else if(ch>='a' && ch<='z')

    {

        printf("lowe case");

    }

    else

    {

        printf("ineger no is not allowwed");

    }

    return 0;

}

// 17. 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 x,y,z,flag;

    printf("enter a triangel");

    scanf("%d%d%d",&x,&y,&z);

    if(x>y)

    {

        flag =((y+x)>x);

    }

    else if(y>x)

    {

        flag=((x+x)>y);

    }

    else{

        flag =((x+y)>z);

    }

    if(flag)

    {

        printf("valid triangle");

    }

    else{

        printf("invalid triangle");

    }

    return 0;

}

// 8. Write a program which takes the month number as an input and display number of

// days in that month    31 28 31 30 31 30 31 31 30 31 30 31

#include<stdio.h>

int main()

{

    int month;

    printf("entera month");

    scanf("%d",&month);

    if(month==1){

        printf("month is jan 31 days ");

    }

    else if(month==2){

        printf("month is feb 28 days ");

    }

      else if(month==3){

        printf("month is mar 31 days ");

    }

     else if(month==4){

        printf("month is aprail 30 days ");

    }

      else if(month==5){

        printf("month is may 31 days ");

    }

       else if(month==6){

        printf("month is june 30 days ");

    }

        else if(month==7){

        printf("month is july 31 days ");

    }

      else if(month==8){

        printf("month is Aug 31 days ");

    }

       else if(month==9){

        printf("month is Sep 30 days ");

    }

       else if(month==10){

        printf("month is Oct 31 days ");

    }

       else if(month==11){

        printf("month is Oct Nov days ");

    }

      else if(month==12){

        printf("month is Oct Dec days ");

    }

    return 0;

}