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 any number: ");

scanf("%d",&a);

if(a>0)

printf("given number is positive");

else

printf("given number is non positive");

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 any number: ");

scanf("%d",&a);

if(a%5)

printf("given number is not divisible by 5");

else

printf("given number is 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 any number: ");

scanf("%d",&a);

if(a%2)

printf("given number is odd");

else

printf("given number is even");

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("enter any number: ");

scanf("%d",&a);

if(a&1)

printf("given number is odd");

else

printf("given number is even");

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("enter any number: ");

scanf("%d",&a);

if(a>99 && a<1000)

printf("given number is three digit number");

else

printf("given number is not three digit number");

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 a,b;

printf("enter any number: ");

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

if(a>b)

printf("%d is greater than %d",a,b);

else

printf("%d is greater than %d",b,a);

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;

printf("enter any quadratic equation in form of \" aX^2+bX+c: \": ");

scanf("%dX^2+%dX+%d",&a,&b,&c);

//printf("%d %d %d",a,b,c);

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

if(d==0)

printf("\ngiven equation has real and equal roots. ");

else if(d>0)

printf("given equation has real and distinct roots. ");

else

printf("given equation has imaginary roots. ");

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 year: ");

scanf("%d",&year);

if(((year%4==0)&&(year%100!=0))||(year%400==0))

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

else

printf("%d is not a leap 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 any three number: ");

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

printf("greatest number is %d",a<b ? b<c ? c:b : a>c? a:c);

return 0;

}

10. Write a program which takes the cost price and selling price of a product from the

user. Now calculate and print profit or loss percentage.

#include<stdio.h>

int main()

{

int cp,sp;

printf("enter cost price: ");

scanf("%d",&cp);

printf("enter selling price: ");

scanf("%d",&sp);

cp<sp ? printf("profit is %f %%",100.0\*(sp-cp)/cp):printf("loss is %f %%",100.0\*(cp-sp)/cp);

return 0;

}

11. Write a program to take marks of 5 subjects from the user. Assume marks are given

out of 100 and passing marks is 33. Now display whether the candidate passed the

examination or failed.

#include<stdio.h>

int main()

{

int english,hindi,maths,science,computer;

printf("enter marks of subject of english, hindi, maths, science, computer: ");

scanf("%d %d %d %d %d",&english,&hindi,&maths,&science,&computer);

if(english>32 && hindi>32 && maths>32 && science>32 && computer>32)

printf("you has been passed");

else

printf("you has been failed");

return 0;

}

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

#include<stdio.h>

int main()

{

char a;

printf("enter any alphhabet: ");

scanf("%c",&a);

if(a>='a'&&a<='z')

printf("given alphabet is in lower case");

else if (a>='A'&&a<='Z')

printf("Given alphabet is in upper case");

else

printf("not alphabet");

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 a;

printf("enter any number: ");

scanf("%d",&a);

if(a%3==0 && a%2==0)

printf("given number is divisible by 2 and 3");

else

printf("given number is 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 main()

{

int a;

printf("enter any number: ");

scanf("%d",&a);

if(a%7==0 || a%3==0)

printf("given number is divisible by 7 or 3");

else

printf("given number is not divisible by 7 or 3 ");

return 0;

}

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

#include<stdio.h>

int main()

{

int a;

printf("enter any number: ");

scanf("%d",&a);

if(a>0)

printf("given number is positive");

else if (a<0)

printf("given number is non positive");

else

printf("given number is zero");

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 a;

printf("enter any alphhabet: ");

scanf("%c",&a);

if(a>='a'&&a<='z')

printf("given character is in lower case");

else if (a>='A'&&a<='Z')

printf("Given character is in upper case");

else if (a<='9' && a>='0')

printf("given character is digit");

else

printf("given character special character");

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 a,b,c;

printf("enter side of triangle: ");

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

if(a<b+c && b<c+a && c<a+b)

printf("triangle exist with given side");

else

printf("triangle does not exist with given side");

return 0;

}

18. 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 a;

printf("enter month number from 1 to 12: ");

scanf("%d",&a);

if(a==2)

printf("given month has 28 days or 29 if leap year");

else if((a<8 && a%2)||(a>7 && a%2==0))

printf("given month has 31 days ");

else

printf("given month has 30 days");

return 0;

}