**Assignment - 3 A Job Ready Bootcamp in C++, DSA and IOT MySirG**

**Decision Control Statements**

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

#include<stdio.h>

int main()

{

int num;

printf("Enter a number: ");

scanf("%d",&num);

if(num>0)

{

printf("Number is positive");

}

else{

printf("Number is non-positive");

}

printf("\n");

return 0;

}

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

#include<stdio.h>

int main()

{

int num;

printf("Enter a number: ");

scanf("%d",&num);

if(num%5==0)

{

printf("Number is divisible by 5.");

}

else{

printf("Number is not divisible by 5.");

}

printf("\n");

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 num;

printf("Enter a number: ");

scanf("%d",&num);

if(num%2==0)

{

printf("Number is an even.");

}

else{

printf("Number is an odd.");

}

printf("\n");

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 num;

printf("Enter a number: ");

scanf("%d",&num);

if(num & 1)

{

printf("Number is an odd.");

}

else{

printf("Number is an even.");

}

printf("\n");

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 num;

printf("Enter a number: ");

scanf("%d",&num);

if(num>99 && num<1000)

{

printf("%d is a three-digit number.",num);

}

else{

printf("%d is not a three-digit number.",num);

}

printf("\n");

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 two number: ");

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

if(a>b)

{

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

}

else if(a<b){

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

}

else {

printf("Both are same greater");

}

printf("\n");

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("Enter a cofficient of x^2, x and constant term: ");

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

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

if(D>0)

{

printf("Roots are real and distinct");

}

if(D==0){

printf("Both roots are equal");

}

if(D<0)

{

printf("Both root are imaginary");

}

printf("\n");

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 the year: ");

scanf("%d",&year);

if(year%100==0)

{

if(year%400==0)

printf("Leap year\n");

else

printf("Non lear year\n");

}

if(year%4==0)

printf("Leap year");

else

printf("Non leap year");

printf("\n");

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 three number: ");

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

if(a>b)

{

if(a>c)

printf("%d",a);

else

printf("%d",c);

}

else if(b>c)

printf("%d",b);

else

printf("%d",c);

printf("\n");

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,profit,loss,p\_percentage,l\_percentage;

printf("Enter cost price and selling price: ");

scanf("%d %d",&cp,&sp);

profit=sp-cp;

loss=cp-sp;

p\_percentage=(profit\*100)/cp;

l\_percentage=(loss\*100)/cp;

if(cp<sp)

{

printf("Profit%%=%d%%",p\_percentage);

}

else

{

printf("Loss%%=%d%%",l\_percentage);

}

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 hindi,eng,math,sci,sst;

printf("Enter number of 5 subject: ");

scanf("%d %d %d %d %d",&hindi,&eng,&math,&sci,&sst);

if(hindi>=33&&eng>=33&&math>=33&&sci>=33&&sst>=33)

{

printf("Pass");

}

else

{

printf("Fail");

}

printf("\n");

return 0;

}

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

#include<stdio.h>

int main()

{

char ch;

printf("Enter a character: ");

scanf("%c",&ch);

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

{

printf("%c is uppercase alphabet",ch);

}

else {

printf("%c is lowercase alphabet",ch);

}

printf("\n");

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 num;

printf("Enter a number: ");

scanf("%d",&num);

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

{

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

}

else{

printf("Number is not divisible by 3 and 2.");

}

printf("\n");

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 num;

printf("Enter a number: ");

scanf("%d",&num);

if(num%3==0&&num%7==0)

{

printf("Number is divisible by 3 and 7.");

}

else{

printf("Number is not divisible by 3 and 7.");

}

printf("\n");

return 0;

}

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

#include<stdio.h>

int main()

{

int num;

printf("Enter a number: ");

scanf("%d",&num);

if(num>0)

{

printf("%d is positive",num);

}

else if(num<0){

printf("%d is negative",num);

}

else if(num==0)

{

printf("%d is zero",num);

}

printf("\n");

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 character: ");

scanf("%c",&ch);

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

//{

printf("Uppercase alphabet");

// }

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

// {

printf("Lowercase alphabet");

//}

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

//{

printf("Digit");

//}

else

printf("Special chactare");

printf("\n");

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 value of side of triangle: ");

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

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

printf("Triangle is valid");

else

printf("Triangle is invalid");

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 month, year;

printf("enter the month : ");

scanf("%d",&month);

printf("enter the year : ");

scanf("%d",&year);

if(((month==2) && (year%400==0)) || ((year%100!=0)&&(year%4==0)))

{

printf("Number of days is 29");

}

else if(month==2)

{

printf("Number of days is 28");

}

else if(month==1 || month==3 || month==5 || month==7 || month==8 || month==10 || month==12)

{

printf("Number of days is 31");

}

else

{

printf("Number of days is 30");

}

return 0;

}