**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("Please Enter any number : ");

scanf("%d",&num);

if(num > 0)

printf("Positive");

else

printf("Non-Positive");

return 0;

}

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

#include<stdio.h>

int main()

{

int num;

printf("Please Enter any number : ");

scanf("%d",&num);

if(num%5 == 0)

printf("%d is divisible by 5",num);

else

printf("%d is not divisible by 5",num);

return 0;

}

1. 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("Please Enter any number : ");

scanf("%d",&num);

if(num%2 == 0)

printf("%d is an even number",num);

else

printf("%d is an odd number",num);

return 0;

}

1. 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("Please Enter any number : ");

scanf("%d",&num);

if(num&1== 1)

printf("%d is an odd number",num);

else

printf("%d is an even number",num);

return 0;

}

1. 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);

return 0;

}

1. 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",b);

else

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

return 0;

}

1. 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 The value of a,b and c: ");

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

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

if(d>0)

printf("real and distinct:");

else if(d==0)

printf("real and equal:");

else

printf("Imaginary:");

return 0;

}

1. 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 in YYYY format : ");

scanf("%d",&year);

if(year%4==0)

printf("%d is Leap Year",year);

else if(year % 4 == 0)

printf("%d is Leap Year",year);

else

printf("%d is Not Leap Year",year);

return 0;

}

1. 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);

return 0;

}

1. 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,loss\_percentage,profit\_percentage,profit,loss;

printf("Please Enter Cost Price of a Product : ");

scanf("%d",&cp);

printf("Please Enter Selling Price of a Product :");

scanf("%d",&sp);

if(cp>sp)

{

loss = cp-sp;

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

printf("The Loss %% of a product is : %d",loss\_percentage);

}

else

{

profit = sp-cp;

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

printf("The Profit %% of a product is : %d",profit\_percentage);

}

return 0;

}

1. 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, science, maths, english, social\_science;

printf("Enter the marks of hindi : ");

scanf("%d",&hindi);

printf("Enter the marks of english : ");

scanf("%d",&english);

printf("Enter the marks of maths : ");

scanf("%d",&maths);

printf("Enter the marks of science : ");

scanf("%d",&science);

printf("Enter the marks of social\_science : ");

scanf("%d",&social\_science);

if(hindi>=33&&english>=33&&maths>=33&&science>=33&&social\_science>=33)

printf("Candidate has Passed the examination :");

else

printf("Candidate has Failed the examination :");

return 0;

}

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

#include<stdio.h>

int main()

{

char ch;

printf("Enter an alphabet character : ");

scanf("%c",&ch);

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

{

printf("The alphabet %c is in Lowercase",ch);

}

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

{

printf("The alphabet %c is in Uppercase",ch);

}

return 0;

}

1. 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 % 2 == 0 && num % 3 == 0))

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

return 0;

}

1. 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 % 7 == 0 || num % 3 == 0))

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

return 0;

}

1. 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("The Number is Zero");

if(num >0)

printf("The Number is Positive");

else

printf("The Number is Negative");

return 0;

}

1. 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("The alphabet %c is Lowercase",ch);

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

printf("The alphabet %c is Uppercase");

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

printf("The character is a digit");

else

printf("The character is a special character");

return 0;

}

1. 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 the length of a triangle side 1 : ");

scanf("%d",&a);

printf("Enter the length of a triangle side 2 : ");

scanf("%d",&b);

printf("Enter the length of a triangle side 3 : ");

scanf("%d",&c);

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

printf("Traingle is valid");

else

printf("Triangle is not Valid");

return 0;

}

1. 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;

printf("Enter the Month number between ( 1 to 12 ) : ");

scanf("%d",&month);

if(month == 1)

printf(" Month number %d = 31 Days ",month);

if(month == 2)

printf(" Month number %d = 28 or 29 Days ",month);

if(month == 3)

printf(" Month number %d = 31 Days ",month);

if(month == 4)

printf(" Month number %d = 30 Days",month);

if(month == 5)

printf(" Month number %d = 31 Days",month);

if(month == 6)

printf(" Month number %d = 30 Days ",month);

if(month == 7)

printf(" Month number %d = 31 Days",month);

if(month == 8)

printf(" Month number %d = 31 Days ",month);

if(month == 9)

printf(" Month number %d = 30 Days",month);

if(month == 10)

printf(" Month number %d = 31 Days",month);

if(month == 11)

printf(" Month number %d = 30 Days",month);

if(month == 12)

printf(" Month number %d = 31 Days",month);

return 0;

}