**Assignment 3**

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

else

printf("%d is non-positive.",num);

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("Enter a 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("Enter a number: ");

scanf("%d",&num);

if(num%2==0)

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

else

printf("%d is a 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 x;

printf("Enter a number: ");

scanf("%d",&x);

if(x&1==1)

printf("%d is odd.",x);

else

printf("%d is even.",x);

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,temp;

printf("Enter a number: ");

scanf("%d",&num);

temp=num;

num/=10;

num/=10;

if(num==0)

{

printf("%d is not a 3 digit number",temp);

return 0;

}

num/=10;

if(num)

printf("%d is not a 3 digit number",temp);

else

printf("%d is a 3 digit number",temp);

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 2 numbers: ");

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

if(a>=b)

printf("\n%d",a);

else

printf("\n%d",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;

printf("Enter a,b,c of quadratic equation");

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

if(((b\*b)-(4\*a\*c))>0)

printf("Roots are real and distinct");

else if(((b\*b)-(4\*a\*c))==0)

printf("Roots are real and equal");

else

printf("Roots are 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 yr;

printf("Enter a year: ");

scanf("%d",&yr);

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

printf("%d is leap year.",yr);

else

printf("%d is not leap year.",yr);

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,max;

printf("Enter 3 numbers: ");

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

max=a;

if(b>max)

max=b;

if(c>max)

max=c;

printf("%d is maximum among %d,%d,%d",max,a,b,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()

{

float sp,cp,prof;

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

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

prof=(sp-cp)/cp\*100;

if(prof>=0)

printf("Profit is %.2f %%",prof);

else

printf("Loss is %.2f %%",(-prof));

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 a,b,c,d,e;

printf("Enter the numbers obtained for the 5 subjects repectively: ");

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

if(a>33&&b>33&&c>33&&d>33&&e>33)

printf("Congratulations!You have been passed.");

else

printf("You are failed.");

return 0;

}

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

#include<stdio.h>

int main()

{

char a;

printf("Enter a character: ");

scanf("%c",&a);

if(a>=65&&a<=90)

printf("%c is in uppercase",a);

if(a>=97&&a<=122)

printf("%c is in lowercase",a);

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

printf("%d is divisible by 3 and divisible by 2 both.",num);

else

printf("%d is not divisible by 3 and divisible by 2 both.",num);

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("%d is divisible by 7 or divisible by 3.",num);

else

printf("%d is not divisible by 7 or divisible by 3.",num);

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

else if(num<0)

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

else

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

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 a;

printf("Enter a character: ");

scanf("%c",&a);

if(a>=65&&a<=90)

printf("%c is in uppercase",a);

else if(a>=97&&a<=122)

printf("%c is in lowercase",a);

else if(a>=48&&a<=57)

printf("%c is a numerical value",a);

else if((a>=32&&a<=47)||(a>=58&&a<=64)||(a>=91&&a<=96)||(a>=123&&a<=126))

printf("%c is a special character",a);

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 3 sides: ");

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

if(((a+b)<=c)||((b+c)<=a)||((c+a)<=b))

printf("It is not a valid triangle.");

else

printf("It is a valid triangle.");

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 num;

printf("Enter number of month: ");

scanf("%d",&num);

if(num>=1&&num<=7)

{

if(num%2==0)

printf("Number of days: 30");

else

printf("Number of days: 31");

}

else if(num>=8&&num<=12)

{

if(num%2==0)

printf("Number of days: 31");

else

printf("Number of days: 30");

}

else

printf("Invalid input.");

return 0;

}