

Assignment # 1

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**Question no 1:**

Enter 2 numbers and find whether first number is divisor of second or not.

**Answer:**

#include<stdio.h>

main()

{

int first,second;

printf("enter first number");

scanf("%d",& first);

printf("enter second number");

scanf("%d",& second);

if (second%first==0)

{

printf("%d is divisor of %d",first,second);

} else

{

printf("%d is not a divisor of %d",first,second);

}

}

**Question no 2:**

Enter 2 numbers and find whether first is a factor of second or not.

**Answer:**

#include<stdio.h>

main()

{

int first,second;

printf("enter first number");

scanf("%d",& first);

printf("enter second number");

scanf("%d",& second);

if(second%first==0)

{

printf("%d is a factor of %d",first,second);

}

else {

printf("%d is not a factor of %d", first, second);

}

}

**Question no 3:**

Enter a number and find whether it’s even or odd.

**Answer:**

#include<stdio.h>

main()

{

int num;

printf("enter a number");

scanf("%d", & num);

int rem=num%2;

if(rem==0)

{

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

} else

{

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

}

}

**Question no 4:**

Write a program to enter 2 numbers and print the larger in them.

**Answer:**

#include<stdio.h>

main ()

{

int num1,num2;

printf("enter first number");

scanf("%d",& num1);

printf("enter second number");

scanf("%d",& num2);

if(num1>num2)

{

printf("%d is greater",num1);

}else

{

printf("%d is greater", num2);

}

}

**Question no 5:**

Enter two numbers and find smaller in them.

**Answer:**

#include<stdio.h>

main()

{

int num1 ,num2;

printf("enter first number");

scanf("%d",&num1);

printf("enter second number");

scanf("%d",&num2);

if(num1<num2)

{

printf("%d is small",num1);

}else

{

printf("%d is small",num2);

}

}

**Question no 6:**

Enter 3 numbers and find largest and smallest in them.

**Answer:**

#include<stdio.h>

main()

{

int num1,num2,num3,smallest,largest;

printf("enter first number");

scanf("%d",& num1);

printf("enter second number");

scanf("%d",& num2);

printf("enter third number");

scanf("%d",& num3);

if(num1 > num2 && num1 > num3)

{

printf("%d is largest\n", num1);

}

if(num2 > num1 && num2 >num3)

{

printf("%d is Largest \n", num2);

}

if(num3 > num1 && num3 > num2)

{

printf("%d is Largest \n", num3);

}

if(num1 < num2 && num1 < num3)

{

printf("%d is smallest\n", num1);

}

if (num2 < num1 && num2 < num3)

{

printf("%d is smallest\n", num2);

}

if (num3 < num1 && num3 < num2)

{

printf("%d is smallest\n", num3);

}

}

**Question no 7:**

Any year is entered through the keyboard, write a program to determine whether the year is leap or not. (A leap year is divided by 4, and not divisible by 100, with exception of an year divisible by 400, e.g., 1700, 1800, 1900 are NOT leap , but 2000 is because of divisibility of 400).

**Answer:**

#include<stdio.h>

main()

{

int year;

printf("enter a year");

scanf("%d",&year);

if(year%4==0)

{

printf("its a leap year");

} else if(year%100==0)

{

printf("not a leap year");

} else if(year%400==0)

{

printf("leap year");

}else{

printf("not leap year");

}

}

**Question no 8:**

If the three sides of a triangle are entered through the keyboard, write a program to check whether the triangle is valid or not. The triangle is valid if the sum of two sides is greater than the largest of the three sides.

**Answer:**

#include<stdio.h>

main(){

int side1,side2,side3;

printf("enter first side of triangle");

scanf("%d",& side1);

printf("enter second side of a triangle");

scanf("%d",& side2);

printf("enter third side of triangle");

scanf("%d",& side3);

if(side1+side2>side3&&side2+side3>side1&&side1+side3>side2)

{

printf("triangle is valid");

}else {

printf("triangle is not valid");

}

}

**Question no 9:**

In a company, worker efficiency is determined on the basis of the time required for a worker to complete a particular job. If the time taken by the worker is between 2 – 3 hours, then the worker is said to be highly efficient. If the time required by the worker is between 3 – 4 hours, then the worker is ordered to improve speed. If the time taken is between 4 – 5 hours, the worker is given training to improve his speed, and if the time taken by the worker is more than 5 hours, then the worker has to leave the company. If the time taken by the worker is input through the keyboard, find the efficiency of the worker.

**Answer:**

#include<stdio.h>

main()

{

float hours;

printf("enter the time(in hours) taken by workers to complete the task");

scanf("%f",&hours);

if(hours>=2&&hours<=3)

{

printf("highly efficient");

}else if(hours>3&&hours<=4)

{

printf("need to improve speed");

}else if(hours>4&&hours<=5)

{

printf("need training to improve speed");

}else if(hours>5)

{

printf("worker has to leave the company");

}

}

**Question no 10:**

A library charges a fine for every book returned late. For first 5 days the fine is 50 paise, for 6-10 days fine is one rupee and above 10 days fine is 5 rupees. If you return the book after 30 days your membership will be cancelled. Write a program to accept the number of days the member is late to return the book and display the fine or the appropriate message.

**Answer:**

#include<stdio.h>

main()

{

int days;

float fine;

printf("enter number of late days");

scanf("%d",& days);

if(days==0)

{

printf("thanks");

}

if(days>0&&days<=5)

{

fine=0.50\*days;

}

if(days>=6&&days<=10)

{

fine=1\*days;

}

if(days>10)

{

fine=5\*days;

}

if(days>30)

{

printf("membership cancelled\n and ");

}

printf("you have to pay fine of %f rupee",fine);

}

**Question no 1:**

Write a program to enter a number and display whether its even or odd using **conditional operator.**

**Answer:**

#include<stdio.h>

main()

{

int num1;

printf("enter any number");

scanf("%d",&num1);

if(num1%2==0)

{

printf("it is even number");

}else {

printf("it is odd number");

}

}

**Question no 2:**

Write a program to enter 2 numbers and print the larger in them using **conditional operator.**

**Answer:**

#include<stdio.h>

main()

{

float num1,num2;

printf("enter first number");

scanf("%f",&num1);

printf("enter second number\n");

scanf("%f",&num2);

if(num1>num2)

{

printf("%f is greater number",num1);

}else

{

printf("%f is greater number ",num2);

}

}

**Question no 3:**

Write a program to enter a number and display the name of month using switch statement. If user enters an invalid number, then display message to enter a valid number.

**Answer:**

#include<stdio.h>

main()

{

int month;

printf("enter the number of month");

scanf("%d",& month);

switch(month)

{

case 1:

printf("january");

break;

case 2:

printf("february");

break;

case 3:

printf("march");

break;

case 4:

printf("april");

break;

case 5:

printf("may");

break;

case 6:

printf("june");

break;

case 7:

printf("july");

break;

case 8:

printf("august");

break;

case 9:

printf("september");

break;

case 10:

printf("october");

break;

case 11:

printf("november");

break;

case 12:

printf("december");

break;

default:

printf("invalid input! enter a valid number btw 1 & 12");

}

}

**Question no 4:**

Write a program to enter a number and display the name of the day using switch statement (e.g., 1 = Monday, 2 = Tuesday, 9 = Invalid number). If user enters an invalid number, then display message to enter a valid number.

**Answer:**

#include<stdio.h>

main()

{

int day;

printf("enter day number");

scanf("%d",& day);

switch(day)

{

case 1:

printf("monday");

break;

case 2:

printf("tuesday");

break;

case 3:

printf("wednesday");

break;

case 4:

printf("thursday");

break;

case 5:

printf("friday");

break;

case 6:

printf("saturday");

break;

case 7:

printf("sunday");

break;

default:

printf("invalid input! enter valid number btw 1 & 7");

}

}

**Question no 5:**

Write a C program to check whether a character is an alphabet, digit or special character. (Use Ascii value)

**Answer:**

#include<stdio.h>

main()

{

char ch;

printf("enter any character\n");

scanf("%c",& ch);

if((ch>='a'&&ch<='z')||(ch>='A'&&ch<='Z'))

{

printf("entered character %c is an alphabet",ch);

}

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

{

printf("entered character %c is a digit",ch);

}

else

{

printf("entered character %c is special character",ch);

}

}

**Question no 6:**

Enter three sides (angles) of a triangle and check whether a triangle can be formed by the given value for the angles. (Sum of three sides angles is 180)

**Answer:**

#include<stdio.h>

main()

{

float angle1,angle2,angle3,sum;

printf("enter first angle of trianlge");

scanf("%f",&angle1);

printf("enter second angle of triangle");

scanf("%f",&angle2);

printf("enter third sngle of a triangle");

scanf("%f",&angle3);

sum=angle1+angle2+angle3;

if(sum==180)

{

printf("triangle possible with these angles");

}

else

{

printf("triangle not possible");

}

}

**Question no 8:**

Write a program in C which is a Menu-Driven Program to compute the area of the various geometrical shape. (Menu means that a message should be displayed like Enter 1 for circle, 2 for triangle, 3 for rectangle etc.)

**Answer:**

#include<stdio.h>

main(){

int choice;

float area,base,radius,length,width,height;

printf("enter your choice\n");

printf("Press 1 for area of circle\n");

printf("press 2 for area of rectangle\n");

printf("press 3 for area of triangle\n");

scanf("%d",&choice);

switch(choice)

{

case 1:

printf("enter radius of circle");

scanf("%f",&radius);

area=3.14\*radius\*radius;

printf("the area of circle is %f",area);

break;

case 2:

printf("enter length of rectangle");

scanf("%f",&length);

printf("enter width of rectangle");

scanf("%f",&width);

area=length\*width;

printf("the area of rectangle is %f",area);

break;

case 3:

printf("enter base of triangle");

scanf("%f",&base);

printf("enter height of triangle");

scanf("%f",&height);

area=0.5\*height\*base;

printf("area of triangle is %f",area);

break;

default:

printf("invalid choice!");

}

}

**Question no 9:**

A triangle can be classiﬁed based on the lengths of its sides as equilateral, isosceles or scalene. All 3 sides of an equilateral triangle have the same length. An isosceles triangle has two sides that are the same length, and a third side that is a different length. If all of the sides have different lengths, then the triangle is scalene. Write a program that reads the lengths of 3 sides of a triangle from the user. Display a message indicating the type of the triangle.

**Answer:**

#include<stdio.h>

main()

{

float side1,side2,side3;

printf("enter first side of triangle");

scanf("%f",& side1);

printf("enter second side of triangle");

scanf("%f",& side2);

printf("enter third side of triangle");

scanf("%f",&side3);

if(side1==side2&&side2==side3)

{

printf("it is equilateral triangle");

}else

if(side1==side2||side2==side3||side1==side3)

{

printf("it is an isosceles triangle");

}else

{

printf("it is scalene triangle");

}

}