Assignment 3

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Question 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%2==0)

    {

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

    }else{

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

    }

}

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

    }else{

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

    }

    return 0;

}

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

    }else{

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

    }

    return 0;

}

Question 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 nmber : ");

    scanf("%d",&num);

    if((num & 1)==0)

    {

        printf("%d is even",num);

    }else{

        printf("%d is odd",num);

    }

    return 0;

}

Question 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 an three digit number.",num);

    }

    else{

        printf("%d is not an three digit number",num);

    }

    return 0;

}

Question 6

//Write a program to print greater between two numbers. Print one number of both are the same.

#include<stdio.h>

int main()

{

    int num1;

    int num2;

    printf("Enter number 1 : ");

    scanf("%d",&num1);

    printf("Enter number 2 : ");

    scanf("%d",&num2);

    if(num1==num2)

    {

        printf("%d and %d both are equal.",num1,num2);

    }

    else if

    (num1>num2)

    {

        printf("%d is greater then %d.",num1,num2);

    }

    else{

        printf("%d is greater then %d",num2,num1);

    }

    return 0;

}

Question 7

#include <math.h>

#include <stdio.h>

int main() {

double a, b, c, discriminant, root1, root2, realPart, imagPart;

printf("Enter coefficients a, b and c: ");

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

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

// condition for real and different roots

if (discriminant > 0) {

root1 = (-b + sqrt(discriminant)) / (2 \* a);

root2 = (-b - sqrt(discriminant)) / (2 \* a);

printf("root1 = %.2lf and root2 = %.2lf", root1, root2);

}

// condition for real and equal roots

else if (discriminant == 0) {

root1 = root2 = -b / (2 \* a);

printf("root1 = root2 = %.2lf;", root1);

}

// if roots are not real

else {

realPart = -b / (2 \* a);

imagPart = sqrt(-discriminant) / (2 \* a);

printf("root1 = %.2lf+%.2lfi and root2 = %.2f-%.2fi", realPart, imagPart, realPart, imagPart);

}

return 0;

}

Question 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 a year : ");

    scanf("%d",&year);

    if(year%4==0)

    {

        printf("It is leap year.");

    }

    else{

        printf("It is not a leap year");

    }

    return 0;

}

Question 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 num1,num2,num3;

    printf("Enter a number 1 : ");

    scanf("%d",&num1);

    printf("Enter a number 2 : ");

    scanf("%d",&num2);

    printf("Enter a number 3 : ");

    scanf("%d",&num3);

    if(num1>num2 && num1>num3)

    {

        printf("num1 is greater",num1);

    }

    if(num2>num1 && num2>num3)

    {

        printf("num2 is greater",num2);

    }

    if(num3>num1 && num3>num2)

    {

        printf("num3 is greater",num3);

    }

    return 0;

}

Question 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 costprice;

    int sellingprice;

    printf("Enter costprice : ");

    scanf("%d",&costprice);

    printf("Enter sellingprice : ");

    scanf("%d",&sellingprice);

    if(costprice>sellingprice)

    {

        printf("Loss = %d\n",costprice-sellingprice);

    }

    else if(sellingprice>costprice)

    {

        printf("Profit = %d\n",sellingprice-costprice);

    }

    else{

        printf("nor profit nor loss");

    }

    return 0;

}

Question 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 m1,m2,m3,m4,m5;

    float percentage;

    printf("Enter the marks : ");

    scanf("%d %d %d %d %d",&m1,&m2,&m3,&m4,&m5);

    int total = m1+m2+m3+m4+m5;

    printf("Total marks : %d",total);

    if(m1>=33 && m2>=33 && m3>=33 && m4>=33 && m5>=33)

    {

        printf("\nStudent is pass\n");

        percentage=total/5;

        printf("Percentage = %f%",percentage);

    }

    else{

        printf("\nStudent is Fail\n");

    }

    return 0;

 }

Question 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 character.",ch);

    }

    else if(ch>='a' && ch<='z')

    {

        printf("%c is lowercase",ch);

    }

    else{

        printf("%c is not a character",ch);

    }

    return 0;

}

QUESTION 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;

    scanf("%d",&num);

    if(num%3==0 && num%4==0)

    {

        printf("%d is divisible by 3 and 4",num);

    }

    else{

        printf("%d is not divisible by 3 and 4",num);

    }

    return 0;

}

Question 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 number : ");

    scanf("%d",&num);

    if(num%7==0 && num%3==0)

    {

        printf("%d is divisible by 7 and 3",num);

    }

    else{

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

    }

    return 0;

}

Question 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("Positive");

    }

    if(num==0)

    {

        printf("Zero");

    }

    if(num<0)

    {

        printf("Negative");

    }

    return 0;

}

Question 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>=65 && ch<=90)

    {

        printf("UPPER.");

    }

    else if(ch>=97 && ch<=122)

    {

        printf("LOWER.");

    }

    else if(ch>=48 && ch<=57)

    {

        printf("a digit");

    }

    else

    {

        printf("special charcter.");

    }

    return 0;

}

Question 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 side1,side2,side3;

    printf("Enter three sides of traingle : \n");

    scanf("%d%d%d",&side1,&side2,&side3);

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

    {

        printf("It is valid traingle");

    }

    else{

        printf("It is not valid traingle");

    }

    return 0;

}

Question 18

/\*Write a program which takes the month number as an input and display number of days in that monthx\*/

#include<stdio.h>

int main()

{

    int month\_num;

    printf("Enter a month number : ");

    scanf("%d",&month\_num);

    if(month\_num==1 || month\_num==3 || month\_num==5 || month\_num==7 || month\_num==8 || month\_num==10)

    {

        printf("31 days");

    }

    else if(month\_num==4 || month\_num==6 || month\_num==9 || month\_num==11)

    {

        printf("30 days");

    }

    else if(month\_num==2)

    {

        printf("28/29 days.");

    }

    else

    {

        printf("Invalid month");

    }

    return 0;

}