**LAB ASSIGNMENT:**

**1. The finance department of a company wants to calculate the monthly pay of their employees. Monthly pay should be calculated as below:**

**Monthly\_pay = No.of hours worked in a week \* rate per hour \* No. of weeks in a month**

Ans:

#include <stdio.h>

void main()

{

float HWPW;

float RPH;

float WIM;

float MP;

printf("Enter the number of hours worked per week: ");

scanf("%f", &HWPW);

printf("Enter the rate per hour: ");

scanf("%f", &RPH);

printf("Enter the number of weeks in a month: ");

scanf("%f", &WIM);

MP = HWPW \* RPH \* WIM;

printf("The monthly pay is: $%.2f\n", MP);}

**2. Rahul is planning a road trip from Delhi to Mumbai for his friend's wedding. He wants to know the distance between the two cities to estimate the fuel cost and journey time. Can you write a C program to help Rahul calculate the distance between Delhi and Mumbai?**

Ans:

#include <stdio.h>

void main()

{

float d,t,s;

printf("Enter the speed Rahul is traveling with:");

scanf(%f,&s);

printf("Enter the time Rahul is traveling inthat speed:");

scanf(%f,&t);

d=s\*t;

printf("The distance Rahul travelled:%f km");

scanf(%f,&d);

}

**3. Write a C program to covert Fahrenheit to Celsius**

Ans:

celsius = (fahrenheit - 32) \* 5 / 9

Ans:

#include <stdio.h>

Void main()

{

float c,F;

printf("Enter te tempertature to be converted:");

scanf("%f",&F);

c = (F - 32) \* 5 / 9;

printf("In celsius:%f C");

scanf("%f",&c); }

**4. Write a C program to convert a given integer (in seconds) to hours, minutes and seconds**

Ans:

#include <stdio.h>

void main()

{

int n;

int h, m, s;

printf("Enter the number to be converted:");

scanf("%d",&n);

h= n / 3600;

m= n / 60;

printf("%d is equal to %d hours, %d minutes, %d seconds.\n", h,m,n);

}

**5. Write a C program to calculate the speed when the distance travelled and time taken are provided by the user**

**Ans:**

#include <stdio.h>

void main()

{

float d, t, s;

printf("Enter the distance traveled (in km): ");

scanf("%f", &d);

printf("Enter the time taken (in hr): ");

scanf("%f", &t);

s= d/t;

printf("The speed is %f kilometers per hour.\n", s);

}

**6.Check whether the number is positive or negative.**

Ans:

#include <stdio.h>

void main()

{

int n;

printf("Enter a numbere: ");

scanf("%d", &n);

if (n > 0) {

printf("The number %d is positive.\n", n);

}

else if (n < 0) {

printf("The number %d is negative.\n", n);

}

else {

printf("The number is zero.\n");}

}

**7. Check whether the number is positive or negative or zero.**

Ans:

#include <stdio.h>

void main()

{

int n;

printf("Enter a number: ");

scanf("%d", &n);

if (n > 0) {

printf("The number %d is positive.\n", n);

}

else if (n < 0) {

printf("The number %d is negative.\n", n);

}

else {

printf("The number is zero.\n");

}

}

**8. Check whether the number is odd or even.**

Ans

#include <stdio.h>

void main()

{

int n;

printf("Enter a number: ");

scanf("%d", &n);

if (n % 2 == 0)

{

printf("The number %d is even.\n", n);

}

else {

printf("The number %d is odd.\n", n);}

}

**9. Check whether a person is eligible for voting or not.**

Ans:

#include <stdio.h>

void main() {

int age;

printf("Enter your age: ");

scanf("%d", &age);

if (age >= 18)

{

printf("You are eligible to vote.\n");

}

else {

printf("You are not eligible to vote.\n");

}

}

**10. Largest among three numbers.**

Ans:

#include <stdio.h>

void main()

{

int n1, n2, n3;

printf("Enter the first number: ");

scanf("%d", &n1);

printf("Enter the second number: ");

scanf("%d", &n2);

printf("Enter the third number: ");

scanf("%d", &n3);

if (n1 >= n2 && n1 >= n3) {

printf("The largest number is %d.\n", n1);

}

else if (n2 >= n1 && n2 >= n3) {

printf("The largest number is %d.\n", n2);

}

else {

printf("The largest number is %d.\n", n3);

}

}

**11. Read average marks and find the grade based on the following conditions: Avg marks >**

**80 => A grade Avg marks > 60 and <= 80 => B grade Avg marks > 40 and <= 60 => C**

**grade Avg marks <= 40 => F grade**

Ans:

#include <stdio.h>

void main()

{

float avg;

char Grade;

printf("Enter the Average marks: ");

scanf("%f", &avg);

if (avg>80){

Grade = 'A';

}

else if (avg<=80 && avg>60){

Grade = 'B';

}

else if (avg<=60 && avg>40){

Grade = 'C';

}

else{

Grade = 'F';

}

printf("Your grade is %c\n", Grade);

}

**7. If a user enters a vowel, number, or any other character, the user gets fixed points in a**

**game. 5 points for vowel, 10 points for number, and 0 for any other character. Display the**

**points scored based on the character.**

Ans:

#include <stdio.h>

#include <ctype.h>

void main()

{

char ch;

int points = 0;

printf("Enter a character: ");

scanf("%c", &ch);

ch = tolower(ch);

if (ch=='a' || ch=='e' || ch=='i' || ch=='o' || ch=='u') {

points = 5;

}

else if (isdigit(ch)) {

points = 10;

}

else {

points = 0;

}

printf("Points scored: %d\n", points);

}

Question 1

#include<stdio.h>

int main(){

int a,b;

printf("enter a:");

scanf("%d",&a);

printf("enter b:");

scanf("%d",&b);

if (a>b)

{

printf("a is the maximum:");}

else

{printf("b is the maximum:");

}

}

question 2

#include<stdio.h>

int main(){

int a,b,c;

printf("enter a:");

scanf("%d",&a);

printf("enter b:");

scanf("%d",&b);

printf("enter c:");

scanf("%d",&c);

if(a>b,a>c){

printf("a is maximum");}

else if(b>a,b>c){

printf("b is maximum");}

else (c>a,c>b);{

printf("acis maximum");}

}

question 3

#include <stdio.h>

int main(){

int a;

printf("enter a:");

scanf("%d",&a);

if(a>0)

{printf("positive");}

else if (a<0)

{printf("negetive");}

else (a=0);

{printf("zero");}

}

question 4

#include <stdio.h>

int main(){

int a;

printf("enter a:");

scanf("%d",&a);

if (a%5==0,a%11==0)

{printf("divisible");}

else

{printf("not");}

}

question 5

#include <stdio.h>

#include <ctype.h>

int main(){

char a;

printf("enter a:");

scanf("%c",&a);

if (isalpha(a)){

printf("is");}

else{

printf("no");}

}

question 6

#include <stdio.h>

#include <ctype.h>

int main(){

char n;

printf("enter n:");

scanf("%c",&n);

if (n =='a'|| n =='e'|| n =='i'|| n =='o'|| n =='u'){

printf("is an vowel");}

else{

printf("its not a vowel");}

}

question 7

#include <stdio.h>

#include <ctype.h>

int main() {

char n;

printf("Enter a character: ");

scanf("%c", &n);

if (isalpha(n)) {

printf("'%c' is an alphabet.\n", n);

} else {

printf("'%c' is not an alphabet.\n", n);

}}

question 8

#include <stdio.h>

#include <ctype.h>

int main() {

char n;

printf("Enter a character: ");

scanf("%c", &n);

if (isalpha(n))

if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {

printf("'%c' is a vowel.\n", ch);

else ;

{printf(“a consonant”)}

}

question 9

#include <stdio.h>

#include <ctype.h>

int main(){

char n;

printf("enter n:");

scanf("%c",&n);

if (n>='0' && n<='9'){

printf("is a digit");}

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

{

printf("is an alphabet");}

else;

{printf("is a special character");}

}

question 10

#include <stdio.h>

#include <ctype.h>

int main(){

char n;

printf("enter n:");

scanf("%c",&n);

if (islower(ch)) {

printf("'%c' is a lowercase letter.\n", ch);

}

else if (isupper(ch)) {

printf("'%c' is an uppercase letter.\n", ch);

}

}

question 11

#include <stdio.h>

#include <ctype.h>

int main(){

int a;

printf("enter n:");

scanf("%d",&a);

switch(a){

case1:

printf("today is monday");

break;

case2:

printf("today is tuesday");

break;

case3:

printf("today is wednesday");

break;

case4:

printf("today is thursday");

break;

case5:

printf("today is friday");

break;

case6:

printf("today is saturday");

break;

case7:

printf("today is sunday");

break;

}}

question 12

#include <stdio.h>

int main(){

int a;

printf("enter n:");

scanf("%d",&a);

switch(a){

case 1:

printf("today is january");

break;

case 2:

printf("today is february");

break;

case 3:

printf("today is march");

break;

case 4:

printf("today is april");

break;

case 5:

printf("today is may");

break;

case 6:

printf("today is june");

break;

case 7:

printf("today is july");

break;

case 8:

printf("today is august");

break;

case 9:

printf("today is september");

break;

case 10:

printf("today is october");

break;

case 11:

printf("today is novembe");

break;

case 12:

printf("today is december");

break;

}}

question 13

#include <stdio.h>

int main() {

int amount;

int note100, note50, note20, notes10, notes5, notes1;

printf("Enter the amount: ");

scanf("%d", &amount);

notes100 = notes50 = notes20 = notes10 = notes5 = notes1 = 0;

notes100 = amount / 100;

amount = amount % 100;

notes50 = amount / 50;

amount = amount % 50;

notes20 = amount / 20;

amount = amount % 20;

notes10 = amount / 10;

amount = amount % 10;

notes5 = amount / 5;

amount = amount % 5;

notes1 = amount / 1;

amount = amount % 1;

printf("100 notes:");

printf("50 notes: ");

printf("20 notes: ");

printf("10 notes: ");

printf("5 notes:" );

printf("1 notes: ");

}

question 14

#include <stdio.h>

int main(){

int a,b,c,d;

printf("enter a:");

scanf("%d",&a);

printf("enter b:");

scanf("%d",&b);

printf("enter c:");

scanf("%d",&c);

d=a+b+c;

if (d==180){

printf("valid triangle");

}else{

printf("invalid triangle");

}

}

question 15

#include <stdio.h>

int main(){

int a,b,c;

printf("enter a:");

scanf("%d",&a);

printf("enter b:");

scanf("%d",&b);

printf("enter c:");

scanf("%d",&c);

if (a+b>c){

printf("valid triangle");

}else{

printf("invalid triangle");

}

}

question 16

#include <stdio.h>

int main(){

int a,b,c;

printf("enter a:");

scanf("%d",&a);

printf("enter b:");

scanf("%d",&b);

printf("enter c:");

scanf("%d",&c);

if (a==b&&b==c&&a==c)

{printf("equilateral triangle");}

else if (a==b, b!=c)

{printf("isoceles triangle");}

else if (a==c, c!=b)

{printf("isoceles triangle");}

else if (b==c, b!=a)

{printf("isoceles triangle");}

else

{printf("scalene trinagle");}

}

question 17

#include <stdio.h>

#include <math.h>

int main(){

int a,b,c;

float d1,d2;

printf("enter a:");

scanf("%d",&a);

printf("enter b:");

scanf("%d",&b);

printf("enter c:");

scanf("%d",&c);

d1=(b+sqrt(b\*b-4\*a\*c))/2\*a;

d2=(b-sqrt(b\*b-4\*a\*c))/2\*a;

printf("root is d1%f: ",d1);

printf("root is d2%f: ",d2);}

question 18

#include <stdio.h>

int main() {

float cp,sp

float profit

printf("Enter cp : ");

scanf("%f", &cp);

printf("Enter sp ");

scanf("%f", &sp);

profit = sp-cp;

if (profit > 0)

{printf("Profit: ");

} else if (profit < 0)

{printf("Loss",);

} else {

printf("No profit, no loss.\n");

}}

question 19

#include <stdio.h>

int main()

{ int phy, chem, bio, math, comp;

float per;

printf("Enter five subjects marks: ");

scanf("%d%d%d%d%d", &phy, &chem, &bio, &math, &comp);

per = (phy + chem + bio + math + comp) / 5;

printf("Percentage = %f”, per);

if(per >= 90)

{printf("Grade A");}

else if(per >= 80)

{printf("Grade B");}

else if(per >= 70)

{printf("Grade C");

}

else if(per >= 60)

{printf("Grade D");

}

else if(per >= 40)

{printf("Grade E");

}

else

{printf("Grade F");

}}

question 20