**Practical 3**

**Q1.**

#include <stdio.h>

#include <stdlib.h>

int main()

{

int no1,no2,max;

printf("Enter the first number ");

scanf("%d",&no1);

printf("Enter the second number ");

scanf("%d",&no2);

if (no1>no2)

max = no1;

else

max = no2;

printf("The highest number is %d\n",max);

return 0;

}

**Q2.**

#include <stdio.h>

#include <stdlib.h>

int main()

{

int no1,no2,no3,max,min;

printf("Enter the first number ");

scanf("%d",&no1);

printf("Enter the second number ");

scanf("%d",&no2);

printf("Enter the third number ");

scanf("%d",&no3);

max = no1;

if (no2>max);

max =no2;

if (no3>max)

max = no3;

min = no1;

if (no2<min)

min = no2;

if (no3<min);

min = no3;

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

printf("The smallest number is %d\n",min);

return 0;

}

**Q3.**

#include <stdio.h>

#include <stdlib.h>

int main()

{

char empname[20];

float bs,inc,ns;

//input employee name, basic salary

printf("Enter employee name ");

scanf("%s",&empname);

printf("Enter the basic salary ");

scanf("%f",&bs);

//process

if (bs>=10000)

inc=bs\*0.15;

else if (bs>=5000)

inc = bs\*0.10;

else

inc= bs\*0.05;

//output employee name with new salary

ns =bs+inc;

printf("Employee name %s\n",empname);

printf("New salary %.2f\n",ns);

return 0;

}

**Q4.**

#include <stdio.h>

int main()

{

float radius, diameter, circumference, area;

float pi = 3.14159;

printf("Enter the radius of the circle: ");

scanf("%f", &radius);

diameter = 2 \* radius;

circumference = 2 \* pi \* radius;

area = pi \* radius \* radius;

printf("Diameter: %f\n", diameter);

printf("Circumference: %f\n", circumference);

printf("Area: %f\n", area);

return 0;

}

**Q5.**

#include <stdio.h>  
 int main()   
{  
 int num1, num2;   
printf("Enter the first number: ");

scanf("%d", &num1);   
printf("Enter the second number: ");

scanf("%d", &num2);   
if (num2 != 0 && num1 % num2 == 0)   
{   
printf("%d is a multiple of %d\n", num1, num2);  
 }   
else   
{ printf("%d is not a multiple of %d\n", num1, num2);  
 }   
return 0;  
 }

**Q6.**

#include <stdio.h>

int main()

{

char characters[] = {'A', 'B', 'C', 'a', 'b', 'c', '0', '1', '2', '$', '\*', '+', '/', ' '};

int num\_characters = sizeof(characters) / sizeof(char);

for (int i = 0; i < num\_characters; i++)

{

printf("The integer equivalent of '%c' is %d\n", characters[i], characters[i]);

}

return 0;

}

**Practical 4**

**Q1.**

int main()

{

int no,ans;

printf("Enter a number ");

scanf("%d",&no);

ans = no%2;

if (ans==1)

// == equal to

printf("%d is an odd number\n",no);

else

printf("%d is an even number\n",no);

return 0;

}

**Q2.**

#include <stdio.h>

int main()

{

int no, ans;

printf("Enter a number: ");

scanf("%d", &no);

ans = no % 2;

switch (ans)

{

case 1:

printf("%d is an odd number.\n", no);

break;

default:

printf("%d is an even number.\n", no);

break;

}

return 0;

}

**Q3.**

#include <stdio.h>

int main()

{

int choice;

float num1, num2, result;

printf("Menu Driven Calculator\n");

printf("1. Addition\n");

printf("2. Subtraction\n");

printf("3. Division\n");

printf("4. Multiplication\n");

printf("Enter your choice (1-4): ");

scanf("%d", &choice);

printf("Enter two numbers: ");

scanf("%f%f", &num1, &num2);

switch (choice)

{

case 1:

result = num1 + num2;

printf("Result: %.2f\n", result);

break;

case 2:

result = num1 - num2;

printf("Result: %.2f\n", result);

break;

case 3:

if (num2 != 0)

{

result = num1 / num2;

printf("Result: %.2f\n", result);

}

else

{

printf("Error: Division by zero is not allowed.\n");

}

break;

case 4:

result = num1 \* num2;

printf("Result: %.2f\n", result);

break;

default:

printf("Invalid choice.\n");

break;

}

return 0;

}

**Q4.**

#include<stdio.h>

int main()

{

char ch;

printf("Enter a character");

scanf ("%c",&ch);

switch(ch)

{

case 'a':print("a is a vowel");break;

case 'e' :print("e is a vowel");break;

case 'i' :printf("ï is a vowel");break;

case 'o' :printf("o is a vowel");break;

case 'u' :printf("u is a vowel");break;

//......

default:printf("%c is not a vowel\n");

}

**Q5.**

#include<stdio.h>

int main()

{

int month;

printf("Enter the month number 1-12");

scanf("%d",&month);

switch (month)

case 1 :

case 3 :

case 5 :

case 7 :

case 8 :

case 10 :

case 12 :

printf("Number of days - 31\n");

break;

case 4 :

case 6 :

case 9 :

case 11 :

printf("Number of days - 30\n");

break;

case 2 :

printf("Number of days - 28");

break;

}

**Part B**

**Q1.**

**While Loop**

#include <stdio.h>

#include <stdlib.h>

int main()

{

int a=0;

while(a<=100)

{

printf("%d ",a);

a++;

}

return 0;

}

**Do While Loop**

#include <stdio.h>

#include <stdlib.h>

int main()

{ int a= 0;

do

{

printf("%d ",a);

a++;

}while(a<=100);

return 0;

}

**For Loop**

#include <stdio.h>

#include <stdlib.h>

int main()

{

int a;

for(a=0;a<=100;a++)

printf("%d ",a);

return 0;

}

**Q2.**

#include <stdio.h>

#include <stdlib.h>

int main()

{

int no1,no2,no3,no4,no5,no6,no7,no8,no9,no10,total;

float average;

printf("Enter marks\n ");

scanf("%d %d %d %d %d %d %d %d %d %d",&no1,&no2,&no3,&no4,&no5,&no6,&no7,&no8,&no9,&no10);

total = no1+no2+no3+no4+no5+no6+no7+no8+no9+no10;

average = (total/10.0);

printf("The total marks is %d\n",total);

printf("The average is %f\n",average);

if (average < 50)

printf("Fail!");

else

printf("Pass!");

return 0;

}

**Q3.**

#include <stdio.h>

#include <stdlib.h>

int main()

{

int number;

int i=1, factorial=1;

printf("Enter a number: ");

scanf("%d",&number);

while(i<=number) {

factorial\*=i;

i++;

}

printf("Factorial is %d",factorial);

return 0;

}

**Q4.**

#include <stdio.h>

#include <stdlib.h>

int main()

{

int number;

int total=01;

int reminder;

printf("Enter a number: ");

scanf("%d", &number);

while(number!=0){

reminder = number %10;

total + reminder;

number=number/10;

}

printf("The output is %d",total);

return 0;

}

**Q5.**

#include <stdio.h>

int main() {

int number, reversedNumber = 0, remainder;

printf("Enter an integer: ");

scanf("%d", &number);

do {

remainder = number % 10; // Get the last digit

reversedNumber = reversedNumber \* 10 +

remainder; // Append the digit to reversedNumber

number /= 10; // Remove the last digit from number

} while (number != 0);

printf("Reversed number: %d\n", reversedNumber);

return 0;

}

**Q6.**

#include <stdio.h>

int main()

{

int base,exponent;

printf("Enter the base: ");

scanf("%d", &base);

printf("Enter the exponent: ");

scanf("%d", &exponent);

int result = power(base, exponent);

printf("%d raised to the power of %d is: %d\n", base,

exponent, result);

return 0;

}

**Q7.**

#include <stdio.h>

int main() {

int num1 = 0, num2 = 1, nextNum, count;

printf("The first 10 numbers of the Fibonacci sequence

are:\n");

printf("%d ", num1);

printf("%d ", num2);

for (count = 3; count <= 10; count++) {

nextNum = num1 + num2;

printf("%d ", nextNum);

num1 = num2;

num2 = nextNum;

}

return 0;

}

**Q8.**

#include<stdio.h>

int main() {

int number;

printf("Enter a number: ");

scanf("%d", &number);

if (isArmstrongNumber(number)) {

printf("%d is an Armstrong number.\n", number);

} else {

printf("%d is not an Armstrong number.\n", number);

}

return 0;

}

**Q9.**

#include <stdio.h>

int main() {

char letter;

printf("ASCII values for letters A to Z:\n");

for (letter = 'A'; letter <= 'Z'; letter++)

{

printf("Letter: %c, ASCII value: %d\n", letter, letter);

}

return 0;

}

**Q10.**

#include <stdio.h>

int main()

{

int x,y;

for(x=1;x<=5;x++)

{

for(y=1;y<=x;y++)

{

printf("\* ");

}

printf("\n");

}

}

**Q11.**

#include <stdio.h>

int main()

{

int number;

printf("Enter a positive integer: ");

scanf("%d", &number);

if(isprime(number))

printf("%d is a prime number.\n", number);

else

printf("%d is not a prime number.\n", number);

return 0;

}

**Q12.**

#include <stdio.h>

int main()

{

int number;

int sum = 0;

printf("Enter numbers to add (-1 to stop):\n");

while (1) {

scanf("%d", &number);

if (number == -1) {

break; // Exit the loop if -1 is entered

}

sum += number;

}

printf("The sum is: %d\n", sum);

return 0;

}

**Q13.**

#include <stdio.h>

int main() {

int size = 10;

int arr[size];

printf("Enter %d integers:\n", size);

for (int i = 0; i < size; i++) {

scanf("%d", &arr[i]);

}

printf("The array is:");

for (int i = 0; i < size; i++)

{

printf(" %d", arr[i]);

}

printf("\n”);

return 0;

}

**Practical 5**

**Q1.**

#include <stdio.h>

int main() {

int array[10];

int i;

int minValue, maxValue, sum = 0;

double average;

printf("Enter 10 integer values:\n");

for (i = 0; i < 10; i++) {

printf("Value %d: ", i + 1);

scanf("%d", &array[i]);

}

minValue = array[0];

maxValue = array[0];

for (i = 1; i < 10; i++) {

if (array[i] < minValue)

minValue = array[i];

if (array[i] > maxValue)

maxValue = array[i];

}

for (i = 0; i < 10; i++) {

sum += array[i];

}

average = (double)sum / 10;

printf("\nMinimum value: %d\n", minValue);

printf("Maximum value: %d\n", maxValue);

printf("Average value: %.2f\n", average);

printf("\nValues in reverse order:\n");

for (i = 9; i >= 0; i--) {

printf("%d ", array[i]);

}

return 0;

}