**PRACTICAL NO:05**

01)Do-while loop

#include <stdio.h>

#include <stdlib.h>

int main()

{

int x = 0;

do{

printf("%d ",x);

x++;

}while(x<=100);

}

While loop

#include <stdio.h>

#include <stdlib.h>

int main()

{

int x = 0;

while (x<=100)

{

printf("%d ",x);

x++;

}

}

For loop

#include <stdio.h>

#include <stdlib.h>

int main()

{

int x;

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

{

printf("%d ",x);

}

}

02)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int x,total=0,no;

float average;

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

printf("Enter the mark :");

scanf("%d",&no);

total=total+no;

}

average=total/10;

printf("Total: %.2d\n",total);

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

if (average < 50) {

printf("Fail!\n");

} else {

printf("Pass!\n");

}

}

03)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int fact\_no,factorial=1;

printf("Enter the value:");

scanf("%d",&fact\_no);

if (fact\_no == 0){

printf("1 is the output");

}

else{

while (fact\_no >=1){

factorial = factorial\*fact\_no;

fact\_no = fact\_no-1;

}

}

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

}

04)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int no, previous\_Number, sum = 0, remainder;

printf("Enter a number: ");

scanf("%d", &no);

previous\_Number = no;

while (no != 0) {

remainder = no % 10;

sum += remainder;

no /= 10;

}printf("Sum of digits of %d is %d\n", previous\_Number, sum);

}

05)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int number,remainder;

printf("Enter a number: ");

scanf("%d", &number);

do {

printf("%d",number%10);

number=number/10;

}while(number>0);

}

06)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int no,power,answer;

printf("Enter a base : ");

scanf("%d",&no);

printf("Enter a exponent : ");

scanf("%d",&power);

if (power == 0){

printf("Answer is 1");

} else {

while(power>0){

answer=no\*no;

power=power-1;

}

printf("Answer is %d",answer);

}

}

07)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int n = 10;

int x, first = 0, second = 1, next;

printf("Fibonacci Series: ");

for (x = 0; x < n; x++) {

printf("%d ", first);

next = first + second;

first = second;

second = next;

}

}

08)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int no,count,digit;

printf("Enter a number:");

scanf("%d",&no);

count=(no==0)?1:log10(no)+1;

int array\_num[count];

while(no>0){

digit=no%10;

no=no/10;

array\_num[count]=digit;

count--;

}

printf("Enter the number again:");

scanf("%d",&no);

count=(no==0)?1:log10(no)+1;

while(count>0){

printf("%d",array\_num[count]);

count--;

}

count=(no==0)?1:log10(no)+1;

int x;

int ans=0,number;

for(x=count;x>0;x--){

number=array\_num[x];

ans=ans+pow(number,count);

}

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

if(ans==no){

printf("%d is an Armstrong number",no);

}

else{

printf("%d is not an Armstrong number",no);

}

}

09)

#include <stdio.h>

#include <stdlib.h>

int main()

{

char letter;

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

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

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

}

}

10)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int x,y;

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

{

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

{

printf("\*");

}

printf("\n");

}

}

11) #include <stdio.h>

#include <stdlib.h>

int main()

{

int num,i;

printf("Enter a number:");

scanf("%d",&num);

i=2;

while (i<=num/2)

{

if (num % i==0)

{

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

}

i++;

}

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

}

12)

#include <stdio.h>

int main() {

int number;

printf("Enter an integer: ");

scanf("%d", &number);

printf("Factors of %d are: ", number);

for (int i = 1; i <= number; i++) {

if (number % i == 0) {

printf("%d ", i);

}

}

printf("\n");

}

13)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int i,arr[10];

printf("Enter 10 integers:\n");

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

{

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

}

printf("The array is:");

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

{

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

if(i<9)

{

printf(",");

}

}

printf("\n");

}

**Section B:**

01) #include <stdio.h>

#include <stdlib.h>

int main()

{

int x, pcount = 0, ncount= 0, zerocount= 0;

printf("Enter 10 numbers:\n");

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

printf("Number %d: ", i);

scanf("%d", &x);

if (x > 0) {

pcount++;

} else if (x < 0) {

ncount++;

} else {

zerocount++;

}

}

printf("Number of positive numbers: %d\n", pcount);

printf("Number of negative numbers: %d\n", ncount);

printf("Number of zeros: %d\n", zerocount);

}

02) #include <stdio.h>

#include <stdlib.h>

int main()

{

int marks[20];

int i,max=0,min=100,sum=0;

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

{

printf("Enter the mark of student %d:",i+1);

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

if (marks[i]>max){

max=marks[i];

}

if (marks[i]<min){

min=marks[i];

}

sum+=marks[i];

}

float avg=sum/10.0;

printf("The maximum marks is: %d\n",max);

printf("The minimun marks is: %d\n",min);

printf("The average marks is: %d\n",avg);

}

03) #include <stdio.h>

#include <stdlib.h>

int main()

{

int price[10];

int i,count=0,sum=0;

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

printf("Enter the price of the item:");

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

if (price[i]>200){

count++;

}

sum+=price[i];

}

float avg=sum/10;

printf("The average price of an item is: %.2f\n",avg);

printf("The number of items whose price is greater than 200 is: %d\n",count);

}

04)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int emp\_no,count=0;

float basic\_salary;

printf("Enter employee number and basic salary(enter -999 to end):\n");

while (1)

{

scanf("%d",&emp\_no);

if(emp\_no==-999)

break;

scanf("%f",&basic\_salary);

if(basic\_salary>=5000)

{

count++;

}

}

printf("Number of employees with basic salary >=5000:%d\n",count);

}