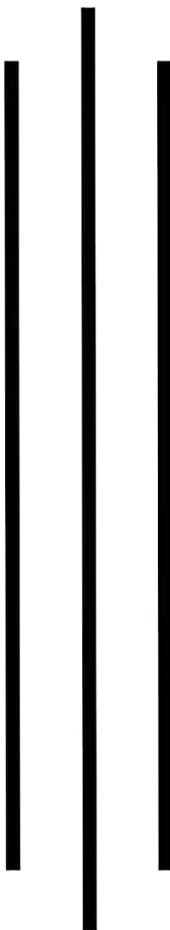


**Computer Practical File
Grade - XII**

**National School of
Sciences**



2081/82

PROGRAM NO: 1

WAP to print the greatest number among the two numbers.

```
#include <stdio.h>
void great (int, int);
void main (){
    int a, b;
    printf ("Enter the numbers : ");
    scanf ("%d %d", &a, &b);
    great (a, b);
}

void great (int x, int y){
    if (x > y)
        printf ("%d is greatest, x");
    else
        printf ("%d is greatest, y");
}
```

PROGRAM NO: 2

WAP to calculate factorial of given number.

```
#include <stdio.h>
int fact (int);
int main ()
{
    int n;
    printf ("Enter the number : "),
    scanf ("%d", &n);
    printf ("The factorial is %d, " fact (n));
}

int fact (int x)
{
    int i, c=1;
    for (i=1; i<=n; i++)
        c = c * i;
    return c;
}
```

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
void great(int, int)	void	a,b,x,y	None	great(a,b)	

Output:

Enter the numbers : 6 9

9 is greatest

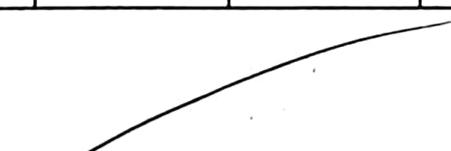


Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
int fact(int)	int	n, x, i, c	c=1	fact(n)	

Output:

Enter the number : 5

The factorial is 120



PROGRAM NO: 1

WAP to print the greatest number among the two numbers.

```
#include <stdio.h>
void great (int, int);
void main(){
    int a, b;
    printf("Enter the numbers :");
    scanf ("%d %d", &a, &b);
    great (a, b);
}

void great (int x, int y){
    if (x > y)
        printf ("%d is greatest, x");
    else
        printf ("%d is greatest, y");
}
```

PROGRAM NO: 2

WAP to calculate factorial of given number.

```
#include <stdio.h>
int fact (int);
int main()
{
    int n;
    printf ("Enter the number :"),
    scanf ("%d", &n),
    printf ("The factorial is %d, " fact (n));
}

int fact (int x)
{
    int i, c = 1;
    for (i = 1; i <= n; i++)
        c = c * i;
    return c;
}
```

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
void mul(int)	void	n, x, i	i = 1	None	

Output:

Enter the n: 5

$5 \times 1 = 5$

$5 \times 2 = 10$

$5 \times 3 = 15$

$5 \times 4 = 20$

$5 \times 5 = 25$

$5 \times 6 = 30$

$5 \times 7 = 35$

$5 \times 8 = 40$

$5 \times 9 = 45$

$5 \times 10 = 50$

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
Void fib(int)	void	n, x, a, b, c, i.	a=0, b=1, i=1	fib(1)	

Output:

Enter the n : 8

0 1 1 2 3 5 8 13

PROGRAM NO: 3

WAP to print multiplication table of n number.

```
#include <stdio.h>
void mul (int);
Void main(){
    int n;
    printf ("Enter the n :"),
    scanf ("%d", &n),
    mul(n);
}
void mul (int x){
    for (int i=1; i<=10; i++){
        printf ("%d x %d = %d \n", x, i, x*i);
    }
}
```

PROGRAM NO: 4

WAP to display Fibonacci series: 1 1 2 3 5 8up to nth term.

```
#include <stdio.h>
void fib(int),
Void main(){
    int n;
    printf ("Enter the n :"),
    scanf ("%d", &n),
    fib(n);
}
void fib (int x){
    int a=0, b=1, c;
    printf ("%d %d", a, b);
    for (int i=1; i<=n-2; i++){
        c = a+b;
        printf ("\t %d", c);
        a = b;
        b = c;
    }
}
```

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
int prime(int)	int	n, i, j, c	c=0	prime(j)	

Output:

Enter no. of terms : 4

2 3 5 7

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
int sum (int, int &)	int	i, x, sum	x=5, i=0, sum=0.	sum(x, n)	

Output:

Enter array 1 : 5

Enter array 2 : 6

Enter array 3 : 7

Enter array 4 : 8

Enter array 5 : 9

Required sum is 35

PROGRAM NO: 5

WAP to display the prime series 2 3 5 7...up to N.

```
#include <stdio.h>
int prime (int);
void main () {
    int n, j;
    printf (" Enter no. of terms :");
    scanf ("%d", &n);
    for (j=1; j<=n; j++) {
        if (prime (j)==2)
            printf ("odd \t", j);
    }
}
int prime (int x) {
    int c=0, i;
    for (i=1; i<=x; i++) {
        if (x % i == 0)
            c++;
    }
    return c;
}
```

PROGRAM NO: 6

WAP to input 5 numbers and calculate their sum using array and function.

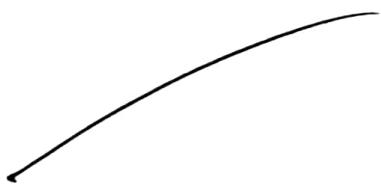
```
#include <stdio.h>
int sum (int, int[]);
int main () {
    int n[100];
    int x=5;
    for (int i=0; i<x; i++) {
        printf ("Enter array elod : ", i+1);
        scanf ("%d", &n[i]);
    }
    printf ("Required sum is %d ", sum(x, n));
}
int sum (int n, int arr[]) {
    int sum=0, i;
    for (i=0; i<n; i++) {
        sum = sum + arr[i];
    }
    return sum;
}
```

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
int Sum (int, int)	int	a, b, x, y	None	Sum(a,b)	

Output:

Enter any two numbers : 2 3

The required sum is 5.

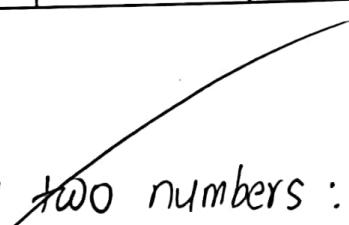


Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
Void Sum (int, int)	void	a, b, x, y	None	Sum(a,b)	

Output:

Enter any two numbers : 2 3

The required sum is 5.



PROGRAM NO: 7

WAP to print sum of two numbers using all categories of user-defined functions.

a) Function returning values and passing arguments.

```
#include <stdio.h>
int Sum (int, int);
int () {
    int a, b;
    printf ("Enter any two numbers : ");
    scanf ("%d %d", &a, &b);
    printf ("The required sum is %d", Sum (a, b));
}
int sum (int x, int y) {
    return (x+y),
}
```



b) Function returning no values but passing arguments.

```
#include <stdio.h>
void Sum (int, int);
int main () {
    int a, b;
    printf ("Enter any two numbers : ");
    scanf ("%d %d", &a, &b),
    sum (a, b);
}
void sum (int x, int y)
{
    printf ("The required sum is %d", (x+y));
}
```

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
int sum() (void)	int	a,b	None	Sum()	

Output:

Enter two numbers: 2 3

Required Sum is 5.

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
Void sum() (void)	Void	a,b	None	Sum()	

Output:

Enter two numbers: 2 3

Required Sum is 5.

c) Function returning values and passing no arguments.

```
#include <stdio.h>
int a,b;
int Sum (void),
int main()
{
    printf ("Enter two numbers :"),
    scanf ("%d%d",&a,&b);
    printf (" Required sum is %d", Sum ());
}
int Sum (void)
{
    return (a+b);
}
```



d) Function returning no values and passing no arguments.

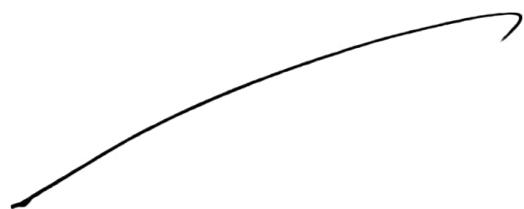
```
#include <stdio.h>
int a,b;
Void Sum ();
int main ()
{
    printf (" Enter two numbers :");
    scanf ("%d%d", &a, &b),
    Sum ();
}
Void Sum ()
{
    printf (" Required sum is %d ", (a+b));
}
```

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
int Sum(int)	int	n, x	None	Sum(n)	

Output:

Enter the value of n: 10

The required sum is 55



Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
int fact(int)	int	n, x	None	fact(n)	

Output:

Enter the value of n: 5

The required factorial is 120.

PROGRAM NO: 8

WAP to calculate the cumulative sum of n natural numbers using recursion.

```
#include <stdio.h>
int Sum(int);
void main () {
    int n;
    printf("Enter the value of n:");
    scanf("%d", &n);
    printf("The required Sum is %d", Sum(n));
}

int Sum(int x) {
    if (x == 0)
        return 0;
    else if (x == 1)
        return 1;
    else
        return (x + Sum(x-1));
}
```

PROGRAM NO: 9

WAP to calculate the cumulative multiplication of n using recursion.

```
#include <stdio.h>
int fact(int);
void main () {
    int n;
    printf("Enter the value of n:");
    scanf("%d", &n);
    printf("The required factorial is %d", fact(n));
}

int fact(int x) {
    if (x == 0)
        return 1;
    else if (x == 1)
        return 1;
    else
        return (x * fact(x-1));
}
```

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
int Count (int, int [])	int	x, i, n, Count.	x=5, i=0, Count=0	Count(x,n)	

Output:

Enter weight 1 : 55

Enter weight 2 : 12

Enter weight 3 : 60

Enter weight 4 : 45

Enter weight 5 : 59

The weight between 50 to 60 kg is 3.

PROGRAM NO: 10

WAP that reads the weight of 5 students and count the number of students having weight in between 50 to 60kg using function.

```
#include <stdio.h>
int Count (int, int[]);
int main (){
    int n [100];
    int x = 5;
    for (i=0; i<x; i++){
        printf ("Enter weight of student ", i+1);
        scanf ("%d", &n[i]);
    }
    printf ("The weight between 50 to 60 kg is %d", Count(x, n));
}
```

```
int Count (int n, int arr[]){
    int count = 0;
    for (i=0; i<n; i++){
        if (arr[i] >= 50 && arr[i] <= 60){
            count++;
        }
    }
    return count;
}
```

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
Void ASC (int, int[])	Void	n, i, j, a[n], temp, x, y[]	None	ASC (n, a)	

Output:

Enter the value of n : 5

Enter the number 1 : 22

Enter the number 2 : 20

Enter the number 3 : 18

Enter the number 4 : 30

Enter the number 5 : 69

The ascending order is :

18 20 22 30 69

PROGRAM NO: 11

WAP that inputs 'n' numbers and sort them in ascending order.

```
#include <Stdio.h>
Void asc(int , int []);
int main (){
    int n, i, j;
    printf("Enter the value of n : ");
    Scanf ("%d", &n);
    int a[n];
    for (i=0; i<n; i++){
        printf("Enter the number %d ", i+1);
        Scanf ("%d", &a[i]);
    }
    asc(n, a);
}
```

```
Void asc (int x , int y[]){
    int i, temp, j;
    for (i=0; i<x-1; i++){
        for (j=i+1; j<x; j++){
            if (y[i]>y[j]){
                temp = y[i];
                y[i] = y[j];
                y[j] = temp;
            }
        }
    }
}
```

```
Printf ("The ascending order is : \n");
for (i=0; i<x; i++){
    Printf ("%d", y[i]);
}
```

}

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
void mat(int [3][3], int [3][3])	Void	i, j, k, a[3][3], b[3][3], x[3][3], y[3][3]	None	mat(a,b)	

Output:

Enter matrix A : 1

```
" " " : 2
" " " : 3
" " " : 4
" " " : 5
" " " : 6
" " " : 7
" " " : 8
" " " : 9
```

Enter matrix B: 1

```
" " " : 2
" " " : 3
" " " : 4
" " " : 5
" " " : 6
" " " : 7
" " " : 8
" " " : 9
```

The matrix multiplication is

30	36	42
60	81	96
102	126	150

PROGRAM NO: 12

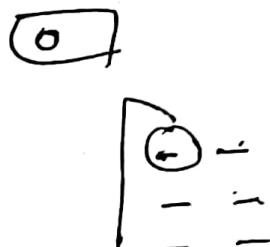
WAP to calculate and display multiplication of two matrices with respective size 3x3.

```
#include <stdio.h>
Void mat (int a[3][3], int b[3][3]),
int main(){
    int i, j, a[3][3], b[3][3];
    for (i=0; i<3; i++) {
        for (j=0; j<3; j++) {
            printf ("Enter matrix A : ");
            scanf ("%d", &a[i][j]);
        }
    }
    for (i=0; i<3; i++) {
        for (j=0; j<3; j++) {
            printf ("Enter matrix B : ");
            scanf ("%d", &b[i][j]);
        }
    }
    mat(a, b);
}
```

```
Void mat (int x[3][3], int y[3][3]){
    int i, j, k;
    int res[3][3];
    for (i=0; i<3; i++) {
        for (j=0; j<3; j++) {
            res[i][j] = 0;
        }
    }
    for (k=0; k<3; k++) {
        for (i=0; i<3; i++) {
            for (j=0; j<3; j++) {
                res[i][j] = res[i][j] + x[i][k] * y[k][j];
            }
        }
    }
}
```

printf ("The matrix multiplication is \n");

```
for (i=0; i<3; i++) {
    for (j=0; j<3; j++) {
        printf ("%d", res[i][j]);
    }
    printf ("\n");
}
```



Structure tag name	Members of Structure	Structure Variables	Accessing members	Function prototype	Function call	Size of structure
Student	rollno, fname, lname	S[n]	S[i].rollno, S[i].fname, S[i].lname	void display (int, struct student []);	display(n,s)	44 bytes

Output:

Enter the no. of records :

2

Enter the Roll No, First Name and Last Name of Student 1

123

Ram

Thapa

Enter the Roll No, First Name and Last Name of Student 2

119

Sita

Koirala

Roll No : 123

First Name : Ram

Last Name : Thapa

Roll No : 119

First Name : Sita

Last Name : Koirala

PROGRAM NO: 13

WAP that takes rollno, fname, lname and prints the record on screen.

```
#include <stdio.h>
Struct student {
    int rollno,
    Char fname [20],
    char lname [20];
}
Void display (int, Struct student []);
Void main () {
    int n, i,
    Printf ("Enter the no. of records:\n");
    scanf ("%d", &n);
    Struct student s[n];
    for (i=0; i<n; i++){
        Printf ("Enter the Roll NO, First Name and Last Name
        of Student %d", i+1);
        scanf ("%d%oS%oS", &s[i].rollno, s[i].fname, s[i].lname),
        display (n, s);
    }
    Void display (int n, Struct student s[]){
        for (int i=0; i<n; i++){
            Printf ("In Roll No : %d\nFirst Name : %s\n
            Last Name : %s", s[i].rollno, s[i].fname, s[i].lname);
            3
            3
        }
    }
}
```

Structure tag name	Members of Structure	Structure Variables	Accessing members	Function prototype	Function call	Size of structure
distance	feet, inch	d1, d2, d	d1.feet, d1.inch, d2.feet,d2.inch	None	None	8 bytes

Output:

Enter first distance in feet and inch :

5

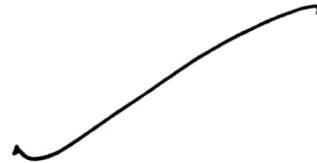
4

Enter Second distance in feet and inch:

6

2

The required distance is 11 feet and 6 inch.



PROGRAM NO: 14

WAP to calculate sum of two distance and distance is measured in terms of feet and inches using user defined datatype.

```
#include <stdio.h>
typedef struct {
    int feet;
    int inch;
} distance;

void main () {
    distance d1, d2, d;
    printf ("Enter first distance in feet & inch : \n");
    scanf ("%d%d", &d1.feet, &d1.inch);
    printf ("Enter Second distance in feet & inch : \n");
    scanf ("%d%d", &d2.feet, &d2.inch);
    d.inch = (d1.inch + d2.inch) % 12;
    d.feet = (d1.feet + d2.feet) + (d1.inch + d2.inch) / 12;
    printf ("The sum of two distance is %d feet & %d inch"
           , d.feet, d.inch);
}
```

Structure tag name	Members of Structure	Structure Variables	Accessing members	Function prototype	Function call	Size of structure
date, emp	day, month, year (emp.no, emp.fname) (emp.lname, emp.dob)	e	e.emp.no, e. emp.fname, e. emp.lname, e. e.day, e.month, e.year	void dispay (struct emp e)	display (e)	68 bytes

Output:

Enter Employee No., First Name and Last Name :

111

Ram

Thapa

Enter DOB (dd-mm-yyyy) :

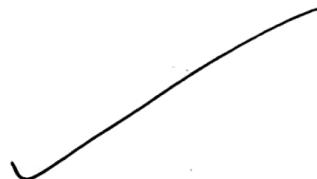
11

11

1999

Employee No.: 111 First Name: Ram Last Name: Thapa

DOB : 11-11-1999



PROGRAM NO: 15

WAP that takes emp_no, emp_fname, emp_lname and date of birth and prints the record on screen using nested structure.

```
#include <stdio.h>
Struct date{
    int day,
    int month;
    int year;
};

Struct emp{
    int emp_no;
    char emp_fname[20];
    char emp_lname[20];
    Struct date d;
};

Void display(Struct emp e);
Void main()
{
    Struct emp e;
    Printf("Enter Employee No., First Name & last Name : ");
    Scanf("%d %s %s", &e.emp_no, e.emp_fname, e.emp_lname);
    Printf("Enter DOB (dd-mm-yyyy) : ");
    Scanf("%d-%d-%d", &e.d.day, &e.d.month, &e.d.year);
    display(e);

    Void display(Struct emp e)
    {
        Printf("\n Employee No: %d \t First Name: %s \t Last Name: %s\n"
            "\n", e.emp_no, e.emp_fname, e.emp_lname);
        Printf(" DOB : %d-%d-%d", e.d.day, e.d.month, e.d.year);
    }
}
```

Structure tag name	Members of Structure	Structure Variables	Accessing members	Function prototype	Function call	Size of structure
Std	rollno fname lname	S[5]	S[i].rollno, S[i].fname, S[i].lname	Void display (Struct Std S)	display(S)	520 bytes

Output:

Enter Roll NO, First Name & Last Name of Student :

1

Ram
Thapa

2

Hari
Koirala

3

Sita
Khadka

4

Rita

KC

5

Gita
Khatry

Roll No: 1

First Name: Ram

Last Name: Thapa

" 2.

" Hari

Koirala

" 3

" Sita

Khadka

" 4

" Rita

KC

" 5

" Gita

Khatry

PROGRAM NO: 16

WAP that takes rollno, fname, lname of 5 students and prints the record on screen.

```
#include <stdio.h>
Struct Std {
    int roll no,
    char fname [10];
    char lname [10];
} S[5];
Void display (Struct Std []);
Void main () {
    int i;
    for (i=0; i<5; i++){
        printf ("Enter Roll No, First Name and last Name of
        Student %d:", i);
        scanf ("%d %s %s", &S[i].roll no, S[i].fname, S[i].lname);
        display (S);
    }
}
Void display (Struct Std[]){
    int i;
    for (i=0; i<5; i++){
        printf ("\n Roll No : %d It First Name : %s It Last Name:
        %s", S[i].roll no, S[i].fname, S[i].lname);
    }
}
```

Structure tag name	Members of Structure	Structure Variables	Accessing members	Function prototype	Function call	Size of structure
Student struct	roll no. fname lname	s[5]	s[i].rollno s[i].fname s[i].lname	void display() { };	display();	120 bytes

Output:

Enter Roll No, First Name & Last Name of Student 1 :

3
Ram
Karki
"

2
Sita
Thapa
"

4
Mari
Koirala
"

1
Samir
KC
"
7
Rita
Thapa

Roll No = 1 First Name = Samir and Last Name = KC

11	2	"	Sita	"	"	Thapa
11	3	"	Ram	"	"	Karki
11	4	"	Mari	"	"	Koirala
11	7	"	Rita	"	"	Thapa

PROGRAM NO: 17

WAP that takes rollno, fname, lname of 5 students and prints the record in ascending order on the basis of rollno.

```
#include <stdio.h>
struct Student {
    int rollno;
    char fname[10];
    char lname[10];
} S[5];
void display();
void main()
{
    int i;
    for(i=0, i<5; i++){
        printf("Enter Roll No, First name & last name of student %d:", i+1);
        scanf("%d %s %s", &S[i].rollno, S[i].fname, S[i].lname);
    }
    display();
}

void display(){
    int i, j;
    struct Student c;
    for (i=0; i<4; i++){
        for (j=i+1, j<5; j++){
            if (S[i].rollno > S[j].rollno){
                c = S[i];
                S[i] = S[j];
                S[j] = c;
            }
        }
    }
    for (i=0; i<5; i++){
        printf("Roll No = %d \t, First Name = %s \t and
Last Name = %s \n", S[i].rollno, S[i].fname, S[i].lname);
    }
}
```

Structure tag name	Members of Structure	Structure Variables	Accessing members	Function prototype	Function call	Size of structure
Struct employee	name address	e[n]	e[i].name, e[i].address	None	None	nx40 bytes

Output:

Enter No of Employee : 2

Enter name and address of employee 1 : ram KTM.

Enter name and address of employee 2 : rita PKR

Employee Records in Alphabetical order :

Name = ram and Address = KTM

Name = rita and Address = PKR



PROGRAM NO: 18

WAP that reads name and address of different employees and rearrange them in the basis of name in alphabetical order.

```
#include <stdio.h>
#include <string.h>
Struct employee {
    char name [20];
    char address [20];
};

Void main(){
    int i, j, n;
    printf ("Enter No of Employee : ");
    scanf ("%d", &n);
    Struct employee e[n];
    Struct employee c;
    for (i=0; i<n; i++){
        printf ("Enter name and address of employee %d \n", i+1);
        scanf ("%s %s", e[i].name, e[i].address);
    }
    for (i=0; i<n-1; i++){
        for (j=i+1; j<n; j++){
            if (strcmp (e[i].name, e[j].name) > 0){
                c = e[i];
                e[i] = e[j];
                e[j] = c;
            }
        }
    }
    printf ("\n Employee Records in Alphabetical order :\n");
    for (i=0; i<n; i++){
        printf ("Name = %s and Address = %s \n", e[i].name,
               e[i].address);
    }
}
```

Structure tag name	Members of Structure	Structure Variables	Accessing members	Function prototype	Function call	Size of structure
Struct Student	S[5]	name, marks	S[i].name, S[i].marks	None	None	20 bytes

Output:

Enter Name & Marks of Student

1:	Ram	36.5
2:	Sita	40
3:	Gita	32
4:	Nita	45.5
5:	Amila	36

Name = Nita , Marks = 45.5

1:	Sita	"	40
2:	Ram	"	36.5
3:	Amila	"	36
4:	Gita	"	32

PROGRAM NO: 19

WAP that takes name and marks of 5 students and sort them in descending order on the basis of marks.

```
#include <stdio.h>
Struct Student {
    Char name [20];
    float marks;
} S[5];
Void main()
{
    int i,j;
    Struct Student C;
    for(i=0; i<5, i++)
    {
        printf ("Enter Name & Marks of student %d:", i+1);
        scanf ("%s %f", S[i].name, &S[i].marks);
    }
    for(i=0; i<4, i++)
    {
        for(j=i+1; j<5; j++)
        {
            if (S[i].marks < S[j].marks)
            {
                C = S[i];
                S[i] = S[j];
                S[j] = C;
            }
        }
    }
    for(i=0; i<5; i++)
    {
        printf ("Name = %s, Marks = %.2f\n", S[i].name,
        S[i].marks);
    }
}
```

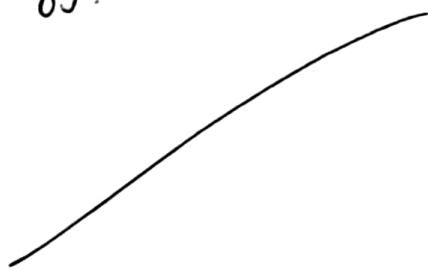
Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
None	None	X, Y, SUM *P1, *P2	None	None	69

Output:

Enter two numbers : 60

9

The required sum is 69.



Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
None	None	n, i, fact. *P1, *P2.	fact = 1	None	120

Output:

Enter the number : 5

The required factorial is 120.

PROGRAM NO: 20

WAP to calculate sum of two numbers using pointers.

```
#include <stdio.h>
void main () {
    int X, Y, sum;
    int *P1, *P2;
    printf ("Enter two numbers : ");
    scanf ("%d %d", &X, &Y);
    P1 = &X;
    P2 = &Y;
    sum = *P1 + *P2;
    printf ("The required sum is %d", sum);
}
```

PROGRAM NO: 21

WAP to calculate factorial of given number using pointer.

```
#include <stdio.h>
void main () {
    int n, i, fact = 1;
    int *P1 = &n;
    int *P2 = &fact;
    printf ("Enter the number : ");
    scanf ("%d", P1);
    for (i = 1; i <= *P1; i++) {
        *P2 *= i;
    }
    printf ("The required factorial is %d", *P2);
}
```

Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
Void Swap(int, int)	Void	X, Y, temp	X=6, Y=9	Swap(X, Y)	

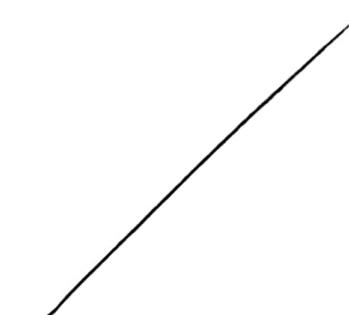
Output:

Before Swap

$$X = 6 \quad Y = 9$$

After Swap

$$X = 9 \quad Y = 6$$



Function prototype	Return type	Variable declaration	Variable initialization	Function call	Output
Void Swap(int*, int*)	Void	X, Y, temp *X, *Y	X=6, Y=9	Swap(&X, &Y)	

Output:

Before Swap

$$X = 6 \quad Y = 9$$

After Swap

$$X = 9 \quad Y = 6$$



PROGRAM NO: 22

WAP to swap two numbers showing call by values and call by reference.

//Call by Values

```
#include <stdio.h>
void swap(int, int);
Void main()
{
    int x=6, y=9;
    printf(" Before swap \n x=%d \t y=%d \n", x, y);
    Swap(x, y);
}
```

```
void Swap (int x, int y) {
    int temp;
    temp = x;
    x = y;
    y = temp;
}
```

```
printf (" After swap \n x=%d \t y=%d \n", x, y);
```

//call by Reference

```
#include <stdio.h>
Void swap (int*, int* );
Void main() {
    int X=6, Y=9;
    printf (" Before swap \n x=%d \t y=%d \n", X, Y);
    Swap (&X, &Y);
}
```

```
void Swap (int *x, int *y) {
    int temp,
    temp = *x;
    *x = *y;
    *y = temp;
}
```

```
printf (" After swap \n x=%d \t y=%d \n", *x, *y );
```

g

File pointer	Variable declaration	Variable initialization	Mode used	Text file name	Read/W. functions
fp	char ch	None	w, r	Std·txt	getc(), putc()

Output:

Enter the character: x

x

File pointer	Variable declaration	Variable initialization	Mode used	Text file name	Read/W. functions
f	int n,x	None	w, r	int.txt	getw(), putw()

Output:

Enter any number: 2

2

PROGRAM NO: 23

WAP to write and read character to/from file using getc() and putc().

```
#include <stdio.h>
void main(){
    FILE *fp;
    char ch,
    fp = fopen (" Std.txt", "w");
    printf(" Enter the character :");
    ch = getchar();
    putc (ch,fp);
    fclose (fp),
    fp = fopen ("Std.txt", "r");
    ch = getc(fp);
    putchar(ch);
    fclose (fp);
}
```

PROGRAM NO: 24

WAP to write and read integer to/from file using getw() and putw().

```
#include <stdio.h>
void main(){
    FILE *f;
    int n,x;
    f = fopen (" int.txt", "w");
    printf(" Enter any number :");
    scanf ("%d", &n);
    putw(n,f);
    f = fopen (" int.txt", "r");
    x = getw(f);
    printf ("%d", x);
    fclose (f);
}
```

3

File pointer	Variable declaration	Variable Initialization	Mode used	Text file name	Read/Write functions
fp	int i, roll; char name, float per;	None	W R	Student.txt	fscanf fprintf

Output:

Enter the roll no, name and percentage of student.

1	ram	85	
"	"	"	"
2	sita	83	
"	"	"	"
3	gita	76	
"	"	"	"
4	nita	95	
"	"	"	"
5	nisha	82	

Data of Students :

Roll No: 1 , Name: ram , Percentage: 85

"	2 ,	"	sita ,	"	83
"	3 ,	"	gita ,	"	76
"	4 ,	"	nita ,	"	95
"	5 ,	"	nisha ,	"	82

PROGRAM NO: 25

WAP to write and read rollno, name and percentage of 5 students to/from file using `scanf()` and `sprintf()`.

```
#include <stdio.h>
struct student {
    int roll;
    char name[50];
    float per,
} S[5];
void main()
{
    FILE *fp;
    int i;
    fp = fopen ("Student.txt", "w");
    for (i=0; i<5; i++) {
        printf ("Enter the roll no, name and percentage of
        Student %d : \n", i+1);
        scanf ("%d %s %f", &S[i].roll, S[i].name, &S[i].per);
        fprintf (fp, "%d %s %.2f \n", S[i].roll, S[i].name,
        S[i].per);
    }
    fclose (fp);
    fp = fopen ("Student.txt", "r");
    printf ("In Data of Students : \n");
    for (i=0; i<5; i++) {
        fscanf (fp, "%d %s %f", &S[i].roll, S[i].name, &
        S[i].per);
        printf ("Roll No: %d, Name: %s, Percentage: %.2f
        \n", S[i].roll, S[i].name, S[i].per);
    }
    fclose (fp);
}
```

File pointer	Variable declaration	Variable initialization	Mode used	Text file name	Read/Write functions
fp	int i, id char name float Sal	None	w, r	Cmp.txt	fscanf fprintf

Output:

Enter EID, Name and Salary of employee 1:

1	Ram	50,000	"	"	"	"	2:
"	"	"	"	"	"	"	3:
2	Hari	20,000	"	"	"	"	4:
"	"	"	"	"	"	"	5:
3	Sita	36,000	"	"	"	"	6:
"	"	"	"	"	"	"	7:
4	Grita	25,000	"	"	"	"	8:
"	"	"	"	"	"	"	9:
5	Shyam	23,000	"	"	"	"	10:

Data of Employee:

ID	Name	Salary
1	Ram	50,000
2	Hari	20,000
3	Sita	36,000
4	Grita	25,000
5	Shyam	23,000

PROGRAM NO: 26

WAP to write and read emp_id, emp_name and emp_salary of 5 employees to/from file using fscanf() and fprintf().

```
#include<Stdio.h>
Struct employee{
    int id,
    char name [50],
    float sal,
}s[5];
void main{
    FILE *fp;
    int i;
    fp = fopen ("emp.txt", "w");
    for (i = 0; i < 5; i++) {
        printf ("Enter EID, Name and Salary of employee %d:\n", i);
        scanf ("%d %s %f", &s[i].id, s[i].name, &s[i].sal),
        fprintf (fp, "%d %s %.2f\n", s[i].id, s[i].name,
        s[i].sal);
    }
    fclose (fp);
    fp = fopen ("emp.txt", "r"),
    printf ("\n Datas of Employee :\n");
    printf ("\n ID \t Name \t Salary \n");
    for (i = 0; i < 5; i++) {
        fscanf (fp, "%d %s %f", &s[i].id, s[i].name, &
        s[i].sal);
        printf ("\n %d \t %s \t %.2f \n", s[i].id, s[i].name,
        s[i].sal);
    }
    fclose (fp);
}
```

File pointer	Variable declaration	Variable initialization	Mode used	Text file name	Read/Write functions
fp	int id char name [20]	None	w r	m16.dat	fwrite fread

Output:

Enter ID and name of the student: 102 Ram

ID: 102 , Name: Ram

PROGRAM NO: 27

WAP to write and read a record to/from a data file using fwrite()/fread().

```
#include <stdio.h>
struct data{
    int id;
    char name[20];
} p;
void main()
{
    FILE *fp;
    fp = fopen("m16.dat", "w");
    printf("Enter Id and name of the Student:");
    scanf("%d %s", &p.id, p.name);
    fwrite(&p, sizeof(p), 1, fp);
    fclose(fp);

    fp = fopen("m16.dat", "r");
    fread(&p, sizeof(p), 1, fp);
    printf("In ID: %d, Name: %s\n", p.id, p.name);
    fclose(fp);
}
```

File pointer	Variable declaration	Variable initialization	Mode used	Text file name	Read/Write functions
fp	int n, i, roll, char name; float per.	Name	wb, rb	m16.dat	fwrite fread()

Output:

Enter the no. of students : 2

Enter Roll No., Name and percentage of student 1.

↓

Ram

85

Enter Roll No., Name and percentage of student 2.

2

Sita

92

Records of Students :

Roll No Name Percentage

1 Ram 85

2 Sita 92

↓

PROGRAM NO: 28

WAP to write and read successive records to/ from a data file using structure variables.

```
#include <stdio.h>
struct Student{
    int roll;
    char name[50];
    float per;
}
void main(){
    int n, i;
    printf("Enter the no. of Students ?");
    scanf("%d", &n);
    struct student s[n];
    FILE *fp,
    fp = fopen("m16.dat", "wb");
    for(i=0; i<n; i++){
        printf("Enter Roll No., Name and Percentage of student %d", i+1);
        scanf("%d %s %f", &s[i].roll, s[i].name, &s[i].per);
        fwrite(&s, sizeof(struct student), n, fp);
    }
    fclose(fp);
    fp = fopen("m16.dat", "rb");
    printf("Records of Students : \n");
    printf("In Roll No | Name | Percentage \n");
    fread(&s, sizeof(struct student), n, fp);
    for(i=0; i<n; i++){
        printf(" In %d | %s | %.2f \n", s[i].roll, s[i].name, s[i].per);
    }
    fclose(fp);
}
```

File pointer	Variable declaration	Variable initialization	Mode used	Text file name	Read/Write functions
	int c char ok[20],rn[20]	None			remove() rename()

Output:

Case-1

Enter file name to be renamed : m16.txt

Enter new file name : grade12.txt

File renamed successfully.

OR,

case -2

Enter file name to be removed : m16.txt

File removed successfully.

PROGRAM NO: 29

WAP to delete and rename data file using remove and rename command.

```
#include <stdio.h>
void main(){
    int c;
    char old[20], new[20];
    printf("Enter your choice :\n");
    printf("(1) Rename, (2) Remove\n");
    scanf("%d", &c);
    switch(c){
        case 1:
            printf("Enter file name to be renamed :\n");
            scanf("%s", old);
            printf("Enter new file name :\n");
            scanf("%s", new);
            rename(old, new);
            printf("File renamed successfully.");
            break;
        case 2:
            printf("Enter file name to be removed :\n");
            scanf("%s", old);
            remove(old);
            printf("File removed successfully.");
            break;
        default:
            printf("Invalid input");
            break;
    }
}
```

Variable declaration	Variable initialization	Event handling tags	Function name	Output
a, b, s, P, d	None	onclick="calc()	calc()	Sum : 11 Diff : 1 Product : 30

Output:

My Webpage

Enter first number :	6
Enter Second number :	5

calculate

The required sum : 11 , difference : 1 , and product : 30 .

PROGRAM NO: 30
Write a JavaScript code to:

a) Find sum, difference and product of two numbers.

```
<html>
<head>
<title> My Webpage </title>
</head>
<body>
<label for="n1"> Enter first number : </label>
<input type="text" id="n1" /> <br>
<label for="n2"> Enter Second number : </label>
<input type="text" id="n2" /> <br>
<button onclick="calc()"> calculate </button>
<p> The required sum : <strong id="s"></strong>, difference : <strong id="d"></strong>, and product : <strong id="p"></strong>. </p>
<script>
function calc() {
    const a = parseFloat(document.getElementById("n1").value);
    const b = parseFloat(document.getElementById("n2").value);
    const s = a + b;
    const d = a - b;
    const p = a * b;
    document.getElementById("s").innerText = s;
    document.getElementById("d").innerText = d;
    document.getElementById("p").innerText = p;
}
</script>
</body>
</html>
```

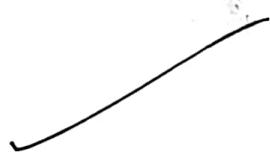
Variable declaration	Variable initialization	Event handling tags	Function name	Output
$\pi, \text{volume}, \text{area}$	None	onclick=calc()	calc()	Volume: 1436.75 Area: 615.75

Output:

Sphere

Enter radius :

The volume is 1436.755 and area is 615.752.



Variable declaration	Variable initialization	Event handling tags	Function name	Output
x, y, z	None	onclick=large()	large()	large : 15

Output:

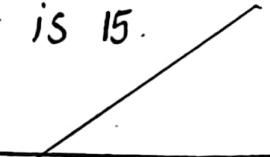
Largest

Input first number:

Input Second number:

Input third number:

The largest number is 15.



b) Find volume and area of a sphere using function.

```
<html>
<head>
<title> Sphere </title> </head> <body>
<label for="radius"> Enter radius. </label>
<input type="text" id="r"> <br>
<button onclick="calc()"> calculate </button>
<p> The volume is <strong id="v"></strong> and area is <strong id="a"></strong>
</p>
<script>
function calc(){
    const n = parseFloat(document.getElementById("r").value);
    const volume = (4/3)*3.14*n*n*n;
    const area = 4*3.14*n*n;
    document.getElementById("v").innerText = volume;
    document.getElementById("a").innerText = area;
}
</script>
</body>
</html>
```

c) Find the largest number among three numbers.

```
<html>
<head>
<title> Largest </title>
</head>
<body>
<label> Input first number: </label>
<input type="text" id="a"> <br>
<label> Input second number: </label>
<input type="text" id="b"> <br>
<label> Input third number: </label>
<input type="text" id="c"> <br>
<button onclick="largest()"> Check </button>
<p> The largest number is <strong id="l"></strong> </p>
<script>
```

```
function largest(){
```

```
    const x = parseFloat(document.getElementById("a").value);
    const y = parseFloat(document.getElementById("b").value);
```

```
    const z = parseFloat(document.getElementById("c").value);
    if(x>y && x>z){
        document.getElementById("l").innerText = x;
    }
    else if(y>x && y>z){
        document.getElementById("l").innerText = y;
    }
    else{
        document.getElementById("l").innerText = z;
    }
}
</script>
</body>
</html>
```

Variable declaration	Variable initialization	Event handling tags	Function name	Output
n, c, i	n=5	None	mUI()	-

Output:

Multiplication

$5 \times 1 = 5$	$5 \times 9 = 45$
$5 \times 2 = 10$	$5 \times 10 = 50$
$5 \times 3 = 15$	
$5 \times 4 = 20$	
$5 \times 5 = 25$	
$5 \times 6 = 30$	
$5 \times 7 = 35$	
$5 \times 8 = 40$	

Variable declaration	Variable initialization	Event handling tags	Function name	Output
a, c, i	c=1	onclick=fact()	fact()	factorial: 125

Output:

Factorial

Enter a number :

Factorial

The factorial is : 120.

d) Display multiplication table of 5 using while loop.

```
<html>
<head>
<title> Multiplication </title>
</head>
<body>
<script>
mul();
function mul() {
    const n=5;
    let i=1;
    while (i<=10) {
        const c = n * i;
        document.write(`n${i} * ${i} = ${c}` + '  
');
        i++;
    }
}
</script>
</body>
</html>
```

e) Display factorial of given number using for loop.

```
<html>
<head>
<title> Factorial </title>
</head>
<body>
<label> Enter a number : </label>
<input type="text" id="n"><br/>
<button onclick="fact()">Factorial</button>
<p>The factorial is : <strong id="r"></strong></p>
<script>
function fact() {
    const a = parseInt(document.getElementById("n").value);
    let c = 1;
    for (let i = 1; i <= a; i++) {
        c *= i;
    }
}
```

```
document.getElementById("r").innerText = c;
}
</script>
</body>
</html>
```

Variable declaration	Variable initialization	Event handling tags	Function name	Output
s, rev, i	i = 0	onclick="rev()"	rev()	Reversed: DOG, length: 3

Output:

Reverse
DOG
Reverse

Reverse: DOG , length: 3

Variable declaration	Variable initialization	Event handling tags	Function name	Output
now	now = new Date()	None	None	Wed Dec 18 2024

Output:

Wed Dec 18 2024

Q) Find the length of a string and reverse the given string.

```
<html>
<head>
<title> Reverse </title>
</head>
<body>
<input type="text" id="str" placeholder="Enter a string"><br>
<button onclick="rev()> Reverse </button>
<p id="res"></p>
<script>
function rev() {
    let s = document.getElementById('str').value;
    let rev = "";
    let i = 0;
    while (i < s.length) {
        rev = s[i] + rev;
        i++;
    }
    let l = s.length;
    document.getElementById('res').innerText = "Reversed : " + rev;
}
</script> </body> </html>
```

g) Display current date.

```
<html>
<head>
<title> Current Date </title>
</head>
<body>
<p id="date"></p>
<script>
const now = new Date();
document.getElementById("date").innerText = now.toDateString();
</script>
</body>
</html>
```

Variable declaration	Variable initialization	Event handling tags	Function name	Output
User, pass	None	onclick="validate()"	Validate()	

Output:

Form Validation

Login successfully!

Enter Username :

Enter Password :

a) validate username and password.

```
<html>
<head>
<title> Validation </title>
</head>
<body>
<label> Enter Username : </label>
<input type = "text" id = "U"> <br>
<label> Enter Password : </label>
<input type = "password" id = "P"> <br>
<button onclick = "validate()"> login </button>

<script>
function validate(){
    let user = document.getElementById('U').value;
    let pass = document.getElementById('P').value;
    if(user == "" || pass == ""){
        alert("Enter the username and Password.");
    }
    else if(pass.length < 8){
        alert("Password should be of eight characters.");
    }
    else{
        alert("Login Successfully!");
    }
}

</script>
</body>
</html>
```

Variable declaration	Variable initialization	Event handling tags	Function name	Output
email, phone, emailpattern, phonepattern	None	onclick="validate()"	validate()	-

Output:

Form validation

Please enter a valid mail.

Enter Email :

Enter Phonenumber :

<html>
<head>
<title> Form validation </title>

</head>
<body>
<label> Enter Email : </label>
<input type = "text" id = "e">

<label> Enter Phone Number : </label>
<input type = "text" id = "p">

<button onclick = "validate()"> Submit </button>

<script>
function validate()

const email = document.getElementById('e').value;
const phone = document.getElementById('p').value;
const emailpattern = /^[^\s@]+@[^\s@]+\.[^\s@]+\$/;

if (!emailpattern.test(email))
 alert("Please enter a valid email.");

const phonepattern = /^\d{10}\$/;

if (!phonepattern.test(phone))
 alert("Please enter a valid phone number.");

}

g

</script>
</body>
</html>

Variable declaration	Variable initialization	Event handling tags	Function name	Output
meter, km	None	onclick="convert()"	convert()	..

Output:

Distance Conversion

Enter distance in meter :

The distance in Kilometer is 1.5

PROGRAM NO: 31

Write JavaScript program that takes distance as input in meter and convert meters into kilometers using function.

```
<html>
<head>
<title> Distance Conversion </title>
</head>
<body>
<label> Enter distance in meter : </label>
<input type = "text" id = "m" > <br>
<button onclick = "convert()"> Convert </button> <br>
<p> The distance in kilometer is <strong id = "res">
</strong> </p>
<script>
    function convert(){
        let meter = parseFloat(document.getElementById('m').value);
        let Km = meter / 1000;
        document.getElementById('res').innerText =
            Km ;
    }
</script>
</body>
</html>
```

Variable declaration	Variable Initialization	Event handling tags	Function name	Output
cel, Fah	None	onclick="convC"	conv()	-

Output:

Temperature Conversion

Enter temperature in Celsius:

The temperature in Fahrenheit is 41.

PROGRAM NO: 32

Write JavaScript program that takes temperature as input in Celsius and converts it into Fahrenheit using function.

```
<html>
<head>
<title> Temperature Conversion </title>
</head>
<body>
<label> Enter temperature in Celsius : </label>
<input type = "text" id = "c" > <br>
<button onclick = "conv()"> Convert </button> <br>
<p> The temperature in Fahrenheit is <strong id = "res">
</strong> . </p>
<script>
    function conv(){
        let cel = document.getElementById('c').value;
        let Fah = (cel * 9 / 5) + 32;
        document.getElementById('res').innerText =
        Fah;
    }
</script>
</body>
</html>
```

Variable declaration	Variable initialization	Event handling tags	Function name	Output
num	None	onclick="calc()"	calc()	

Output:

Array	
Enter 5 Numbers	
Number 1 :	<input type="text" value="2"/>
Number 2 :	<input type="text" value="4"/>
Number 3 :	<input type="text" value="6"/>
Number 4 :	<input type="text" value="8"/>
Number 5 :	<input type="text" value="10"/>
<input type="button" value="Submit"/>	
2,4,6,8,10	

PROGRAM NO: 33

Write JavaScript program that reads 5 random numbers from user and display it using array.

```
<html>
<head>
<title> Array </title>
</head>
<body> Enter 5 Numbers </h1>
<h2> Number 1: <input type="number" id="a"> <br>
Number 2: <input type="number" id="b"> <br>
Number 3: <input type="number" id="c"> <br>
Number 4: <input type="number" id="d"> <br>
Number 5: <input type="number" id="e"> <br>
<button onclick="calc()"> Submit </button> <br>
<p id="res"> </p>

<script>
function calc(){
    const num = [
        document.getElementById('a').value,
        document.getElementById('b').value,
        document.getElementById('c').value,
        document.getElementById('d').value,
        document.getElementById('e').value];
    document.getElementById('res').innerHTML = num.
        toString();
}

</script>
</body>
</html>
```

Variable declaration	Variable initialization	Event handling tags	Function name	Output
None	None	onclick=valu(); onclick=calc(); onclick=clear();	value(value); calc(); clear();	-

Output:

Simple Calculator

Simple Calculator

0			
7	8	9	+
4	5	6	-
1	2	3	*
0	1	=	C

PROGRAM NO: 34

Write JavaScript program to make simple calculator.

```
<html>
  <head>
    <title> Simple calculator </title>
  </head>
  <body>
    <h1> Simple calculator </h1>
    <table border="1px">
      <tr>
        <td colspan="4">
          <input type="text" id="result" disabled>
        </td>
      </tr>
      <tr>
        <td><button onclick="value('7')">7</button></td>
        <td><button onclick="value('8')">8</button></td>
        <td><button onclick="value('9')">9</button></td>
        <td><button onclick="value('+')">+</button></td>
      </tr>
      <tr>
        <td><button onclick="value('4')">4</button></td>
        <td><button onclick="value('5')">5</button></td>
        <td><button onclick="value('6')">6</button></td>
        <td><button onclick="value('-')">-</button></td>
      </tr>
      <tr>
        <td><button onclick="value ('1')">1</button></td>
        <td><button onclick="value('2')">2</button></td>
        <td><button onclick="value('3')">3</button></td>
        <td><button onclick="value('*')">x</button></td>
      </tr>
      <tr>
        <td><button onclick="value('0')">0</button></td>
        <td><button onclick="value('/')">/</button></td>
        <td><button onclick="calc()">=</button></td>
        <td><button onclick="clear()">C</button></td>
      </tr>
    </table>
    <script>
      function value(value){
        document.getElementById("result").value += value;
      }
      function calc(){
        document.getElementById("result").value = eval(document.getElementById("result").value);
      }
      function clear(){
        document.getElementById("result").value = '';
      }
    </script>
  </body>
</html>
```

Variable declaration	Variable initialization	Function name	SQL commands	Data types used in SQL

Output:

Connected Successfully

Database created successfully

Variable declaration	Variable initialization	Function name	SQL commands	Data types used in SQL
a, b, sum, product, difference	\$a = 10; \$b = 5.	None	None	None

Output:

Sum : 15

Product : 50

Difference : 5

Variable declaration	Variable initialization	Function name	SQL commands	Data types used in SQL
a, b, sum, product, difference	\$a = 10; \$b = 5	None	None	None

Output:

Sum : 15

Product: 50

Difference : 5

PROGRAM NO: 35

WAP to print sum, product, and difference of two numbers.

```
<?php  
$a = 10;  
$b = 5;  
$sum = $a + $b;  
$product = $a * $b;  
$difference = $a - $b;  
echo "Sum : ". $sum . "<br>";  
echo "Product : ". $product . "<br>";  
echo "Difference : ". $difference . "<br>";  
?>
```

Variable declaration	Variable initialization	Function name	SQL commands	Data types used in SQL
ram, sita, students	\$ram=ss s, \$sita=6o 3.	var_dump()	—	—

Output:

Program : 36

float (115.8)

Program : 37

```
array (5) {
    [0] => String (3) "Ram"
    [1] => String (4) "Sita"
    [2] => String (4) "Hari"
    [3] => String (5) "Priya"
    [4] => String (5) "Karan"
```

}

PROGRAM NO: 36

WAP to display sum of weight of two students using var_dump().

<? PhP

```
$ram = 55.5;  
$sita = 60.3;  
$totalwt = $ram + $Sita;  
var_dump($totalwt);
```

?>

PROGRAM NO: 37

WAP to display the name of 5 students using var_dump().

<? PhP

```
$Students = ["Ram", "Sita", "Hari", "Priya", "Karon"];  
var_dump($Students);
```

?>

Variable declaration	Variable initialization	Function name	SQL commands	Data types used in SQL
\$servername, \$username, \$password, \$conn, \$sql	\$servername = "localhost"; \$username = "root"; \$password = "";	new mysqli(); query(); close();	CREATE DATABASE NJST	-

Output:

Connected Successfully

Database created successfully

PROGRAM NO: 38

a) Write a php code to create a MySQL database named "NIST" using MySQLi.

```
<?php  
$servername = "localhost";  
$username = "root";  
$password = "";  
$conn = new mysqli ($servername, $username, $password);  
if ($conn->connect_error){  
    die ("connection failed : ". $conn->connect_error);  
}  
else {  
    echo "Connected Successfully";  
}  
  
$sql = "CREATE DATABASE NIST";  
if ($conn->query ($sql) == TRUE){  
    echo "<br>". "Database created successfully";  
}  
else {  
    echo "<br>". "Error ". $conn->error;  
}  
  
$conn->close();  
?>
```

Variable declaration	Variable initialization	Function name	SQL commands	Data types used in SQL
\$servername, \$username, \$password, \$db, \$con, \$sql	\$servername = "localhost" \$username = "root" \$password = "" \$db = "NIST"	mysql_connect(), query(), close().	CREATE TABLE Student rollno INT PRIMARY KEY, name VARCHAR(50), class VARCHAR(50)	INT, VARCHAR

Output:

Connected Successfully

Table created Successfully

b) Create a table named "student" with column: rollno, fname, lname and class.

```
<?php  
$servername = "localhost";  
$username = "root",  
$password = "";  
$db = "NJST";  
$conn = new mysqli($servername, $username, $password, $db);  
if ($conn->connect_error){  
    die ("Error ". $conn->connect_error);  
}  
else{  
    echo ("Connected Successfully");  
  
$sql = "CREATE TABLE Students(  
    rollno INT PRIMARY KEY,  
    fname VARCHAR(50),  
    lname VARCHAR(50),  
    class INT(2)  
)";  
if ($conn->query($sql) == TRUE){  
    echo ("<br>". "Table created successfully");  
}  
else{  
    echo ("Error ". $conn->error);  
}  
$conn->close();  
?>
```

Variable declaration	Variable initialization	Function name	SQL commands	Data types used in SQL
\$servername, \$username, \$password, \$db_name, \$sql	\$servername = "localhost"; \$username = "root"; \$password = ""; \$db = "NIIST";	new mysqli(), Query(), close()	INSERT INTO student(SL Rolling, frame, Inore, CLASS) VALUES(.....)	INT, VARCHAR

Output:

Connected Successfully
 Records inserted Successfully

c) Insert data into table student.

<?php

```
$servername = "localhost";
$username = "root";
$password = "";
$db = "NIST";

$conn = new mysqli($servername, $username, $password, $db);
if ($conn->connect_error){
    die("connection failed : ". $conn->connect_error);
}
else {
    echo ("Connected Successfully");
}

$sql = "INSERT INTO Students (rollno, fname, lname, class)
VALUES (1, 'Amit', 'Sharma', '11'),
(2, 'Sita', 'Thapa', '12'),
(3, 'Rahul', 'Karki', '12')";

if ($conn->query($sql) == TRUE){
    echo("<br>". "Records inserted successfully");
}
else {
    echo ("Error". $conn->error);
}

$conn->close
?>
```

| Variable declaration | Variable initialization | Function name | SQL commands | Data types used in SQL |
|---|--|---|---|------------------------|
| servername, Username, password, db, (roll, class), result | servername = "localhost";
Username = "root";
password = "";
db = "NSSST"; | new mysqli();
query();
fetch_all(\$result);
close(); | SELECT rollno, fname, lname, Class FROM Students; | - |

Output:

Connected Successfully

| Roll No | First Name | Last Name | Class |
|---------|------------|-----------|-------|
| 1 | Amit | Sharma | 11 |
| 2 | Sita | Thapa | 12 |
| 3 | Rahul | Karki | 12 |

d) Fetch data from table student and display it in tabular form.

```
<?php  
$servername = "localhost",  
$username = "root",  
$password = "";  
$db = "NIST";  
  
$conn = new mysqli($servername, $username, $password, $db);  
if ($conn->connect_error){  
    die ("Error". $conn->connect_error);  
}  
else {  
    echo("Connected Successfully");  
}  
  
$sql = "SELECT rollno, fname, lname, class FROM students";  
$result= $conn->query($sql);  
echo "<table>";  
echo "<tr><th> Roll No </th> <th> First Name </th> <th> Last  
Name </th> <th> Class </th> </tr>";  
while( $row= $result->fetch-assoc()){  
    echo "<tr> <td>". $row["rollno"] . "<td>".  
        $row["fname"] . "<td>". $row ["lname"] . "<td>".  
        $row ["class"] . "<td> </tr>";  
}  
echo "</table>";  
$conn->close();  
?>
```