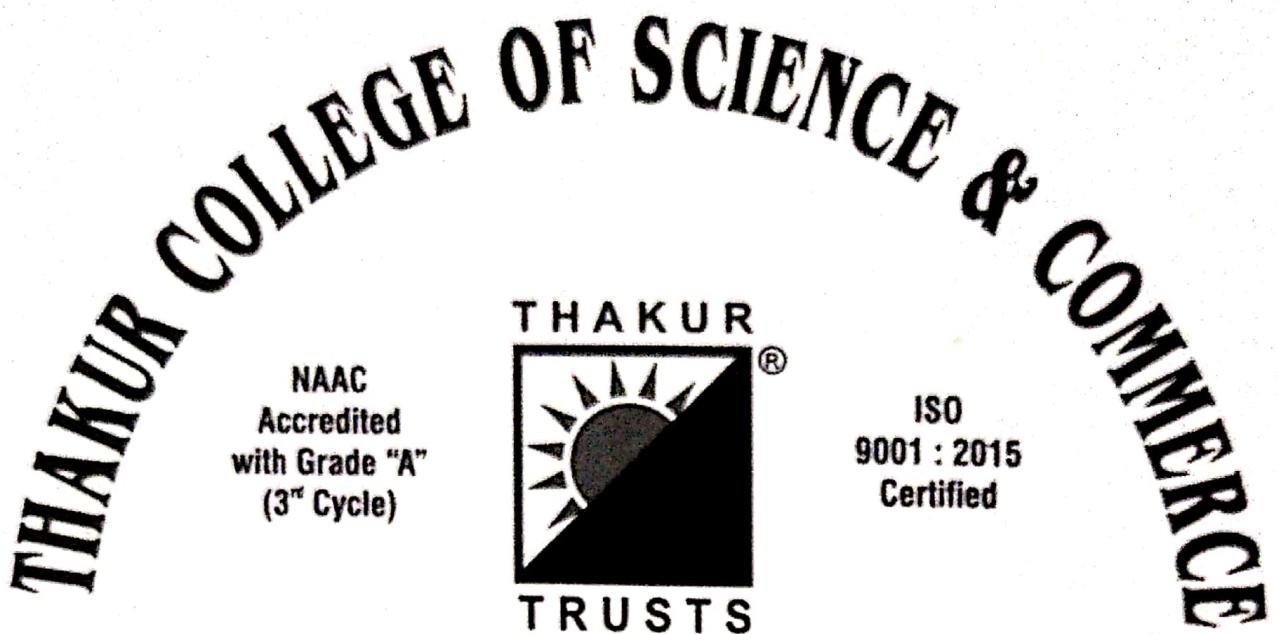


Exam Seat No. \_\_\_\_\_



Degree College  
**Computer Journal**  
**CERTIFICATE**

SEMESTER II UID No. \_\_\_\_\_

Class FYBSC (C.S) Roll No. 1823 Year 2019-20

This is to certify that the work entered in this journal  
is the work of Mst. / Ms. Aashutosh . L.

Patch

who has worked for the year 2019-20 in the Computer  
Laboratory.

Teacher In-Charge

Head of Department

Date : \_\_\_\_\_

Examiner

**★ ★ INDEX ★ ★**

No.	Title	Page No.	Date	Staff Member's Signature
	C programming			
1)	To study the basic datatypes and input/output	3/12/19		✓ 8/12/19
2)	Programme on operator and expressions	10/12/19		✓ 10/12/19
3)	Programme on decision making and branching	12/12/19		
4)	Programmes to understand and keepig structures	2/1/20		
5)	To understand the concept of array.	14/1/20		
6)	Programs using string functions.	21/1/20		✓ 25/1/20
7)	Programs using USER-defined functions	04/2/20		
8)	Program on structures	11/2/20		

# INDEX

## PRACTICAL No. 1

Aim:- Program to understand basic datatypes and inputs and outputs.

Program 1 Area of rectangle

Algorithm:-

Step 1:- Specify 2 header files namely stdio.h  
Step 2:- Define 3 variables of datatype float  
namely.

Step 3:- Use clrscr()

Step 4:- Accept the length of rectangle from the user and store it in the variable

Step 5:- Accept the breadth from the user and store it in a variable b.

Step 6:- Calculate the area of the rectangle by multiplying width and height i.e length and breadth taken from the user.

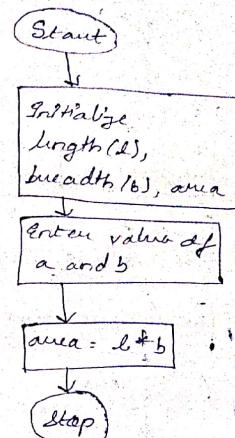
Step 7:- Print the area of the rectangle.

Sample code:-

```
#include <stdio.h>
#include <conio.h>
main()
{
    int l, b, area;
    printf("Enter the numbers:");
    scanf("%d %d", &l, &b);
    area = l * b;
    printf("The area is %d", area);
}
```

Flowchart

26



Output

Enter the numbers: 4, 5

The area is 20

Practica 3

### Program 2 Volume of Sphere

#### Algorithm :-

Step 1:- Specify 2 header files i.e. stdio and cmath

Step 2:- Define 3 variables in float datatype i.e. PI, radius, area.

Step 3:- Use class & ob

Step 4:- Accept the radius of the circle from the user and store it in variable r.

Step 5:- Calculate the volume by using the formula  $(4/3) * (\pi) * (r)^3$ .

Step 6:- Print the volume of the sphere.

Source code :-

```
#include <iostream.h>
#include <cmath.h>
```

```
void main()
```

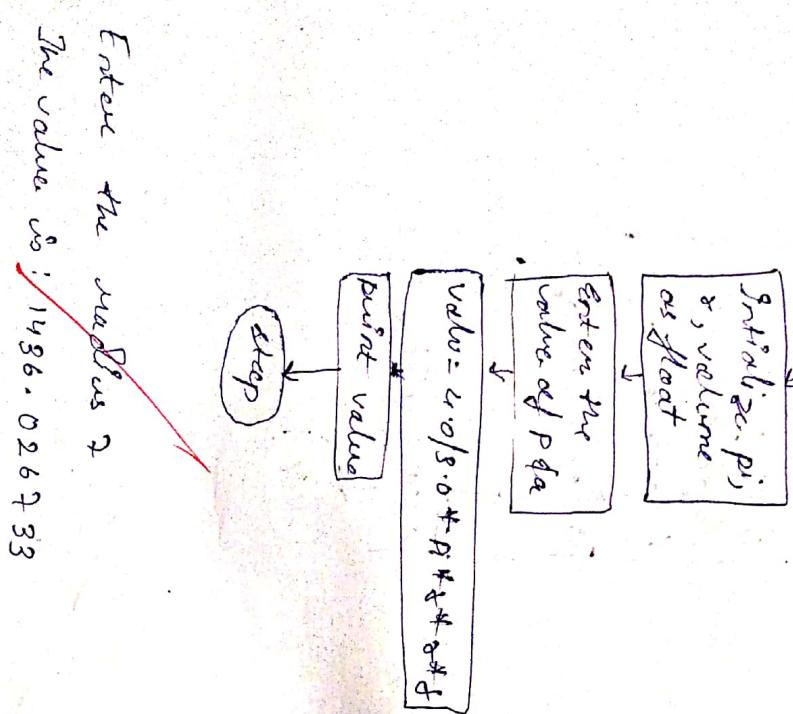
```
{
```

```
    float r, v, pi = 3.14159;
```

```
    cout << "Enter the radius : ";
```

```
    cin >> r >> v;
```

```
    v = 4.0 / 3.0 * pi * r * r * r;
```



Enter the radius ?

The value is : 1436.026733

printf ("The volume is : %.2f", v);  
getch();

3

Program 3 : Average of Three numbers

Algorithm :-

Step 1 :- Specify 2 bracket file i.e stdio & conio

Step 2 :- #include<

Step 3 :- Define 4 variable i.e. a, b & c also ask  
to calculating

Step 4 :- Ask the user to enter a number  
step 5 :- Add 3 no. to calculate sum and  
average by sum/3.0 i.e.  $(n_1 + n_2 + n_3) / 3.0$

Step 6 :- print the corresponding output.

Source Code :-

```
#include<stdio.h>
#include<conio.h>
void main()
{
}
```

class {

float a, b, c, avg;  
printf ("Enter the three numbers")

scanf ("%f", "%f", "%f", &a, &b, &c);  
avg = (a + b + c) / 3;

printf ("Avg.: %f", avg);  
getch();

Enter the numbers 5 5 2

avg: 4.00

Submit

Program. 2 : Convert temperature from Celsius to Fahrenheit.

Algorithm :-

Step 1 :- Specify 2 header file i.e. stdio & iomanip  
 Step 2 :- Define 2 variable name c for celcius and  
 kmp for fahr converted value in float  
 Step 3 :- Ask the user to enter temperature in  
 celcius

Step 4 :- Stores it in the variable

Step 5 :- Use this formula  $(C * 9/5) + 32$

Step 6 :- Prints the output.

Source Code :-

```
#include <iostream.h>
#include <iomanip.h>
void main()
{
    float c, kmp;
    cout << "Enter the temperature in celcius ";
    cin << c;
    temp = (c * 9/5) + 32;
    cout << "The converted value as f. is ";
    cout << temp;
}
```

Program 5:- Convert temperature from Fahrenheit to Celsius.

- Step 1:- Specify the header file
- Step 2:- Define 2 variable namely  $f$  &  $temp$ .
- Step 3:- Ask the user to enter the temp in Fahrenheit. Store it in variable  $f$ .
- Step 4:- Use the formula  $(5 \cdot 0 / 3 \cdot 0) + (f - 32)$
- Step 5:- print the desired output.

Source code:-

```

float f, temp;
class {
    public void main() {
        System.out.println("Enter the temperature in Fahrenheit");
        Scanner s = new Scanner(System.in);
        temp = s.nextFloat();
        float c = (5.0 / 3.0) * (f - 32);
        System.out.println("The converted temperature is " + c);
    }
}

```

Enter the value of Fahrenheit : 80  
Celsius : 26.666

10/10/1

## Practical No. 2

Ques :- Program on operators and expressions

31

Program :- Increment and decrement

Algorithm :-

Step 1: Specify header files i.e. `<iostream.h>` and `<stdio.h>`

Step 2: Inside the void main block define 4 variables

i.e. `a, b, c` and `d` of datatype `integer`.

Step 3: Initialize variable `a` with a value. and `b` with a value.

Step 4: Print the value `a` and `b`

Step 5: `c = ++a - b` and `d = b + +a;`

Step 6: Print the value `a, b, c, d` and `c = a%b, d = a/b`

Step 7: Print the value `c, d` and print getch();

Code:

```
#include <iostream.h>
#include <conio.h>
void main()
```

```
{
```

```
int a, b, c, d;
```

```
clrscr();
```

```
a = 25; b = 10;
```

```
cout << "a = " << a << endl;
```

```
c = ++a - b;
```

```
d = b + +a;
```

```
cout << "c = " << c << endl;
```

```
c = a % b;
```

```
d = a / b;
```

```
cout << "d = " << d << endl;
```

```
getch();
```

Output :-

`a = 25, b = 10`

`a = 26, b = 11, c = 15, d = 36`

`c = 14, d = 2`

`c = a%b`

`d = a/b`

`cout << a, b`

`cout << c, d`

`getch();`

`cout`

`Initialise  
a,b,c,d`

`a = 25  
b = 10`

`cout << a, b`

`c = ++a - b  
d = b + +a`

`cout << c, d`

`c = a%b  
d = a/b`

`cout << a, b`

`getch();`

`cout << c, d`

`getch();`

`cout << a, b`

`getch();`

`cout << c, d`

`getch();`

`cout << a, b`

`getch();`

`cout << c, d`

`getch();`

## Program 2 :- Operators, Precedence.

Algorithm:-

Step1: Specify the header file i.e. `cario.h` and style  
Step2: Inside the void main block define 6 variable  
`a, b, c` and `x, y, z`

Step3: Initialize a variable as `b` with a float value  
Step4: Print the values of `a, b` and `c`

Step5: Perform three operations and student `a`,  
`y` and `z`  
Step6: Print the values of `x, y` and `z`

Code:-

```
#include <stdio.h>
#include <cario.h>
```

valid macros

```
float a, b, c, x, y, z;
```

```
int i;
```

```
b = 15;
```

```
c = 3;
```

```
printf("The value of a = %f, b = %f, c = %f", a, b, c)
```

```
a = a - b / 3 + c * 2 - 1;
```

```
y = a - b / (3 + c) * (2 - 1);
```

```
z = a - (b / (3 + c) * 2) - 1;
```

```
printf("%n The value of x = %f, y = %f, z = %f",
```

```
x, y, z);
getch();
```

Start

`a = 8`  
`b = 15`  
`c = 3`

`x = a - b / 3 + c * 2 - 1`  
`y = a - b / (3 + c) * (2 - 1)`  
`z = a - (b / (3 + c) * 2) - 1`

`printf("%f, %f, %f", x, y, z)`

end

Output :-

The value of `a` = 8.000000, `b` = 15.000000, `c` = 3.0000  
The value of `x` = 5.500000, `y` = 5.500000, `z` = 2.000000

Start

Initialize  
a, b, c, ans

a = 6  
b = 4  
c = 1

ans =  
++a + b + ++c + +

Print a, b, c

End

Program 3:-

Algorithm:

Step 1: Specify the header file namely stdio and conio.  
Step 2: Inside the void main block define 3 variable namely a, b, c and ans.

Step 3: Initialize the variable a, b, c with a value.  
Step 4: Perform the operation `++a + b + ++c + +` and store in variables ans.

Step 5: print the value of a, b, c and ans.

Source code:-

#include <stdio.h>

#include <conio.h>

void main()

{

int a, b, c, ans;

clrscr();

a = 6;

b = 4;

c = 1;

ans = ++a + b + ++c + +;

~~Print a, b, c~~  
The value of a = 1.d, b = 1.d, c = 1.d and  
ans = 1.d, a, b, c, ans;

3

Output:-

The value of a = 2, b = 5, c = 1 and ans = 1.

Program :-

Algorithm :-

Step 1: Specify the header file namely stdio.h  
and conio.h.

Step 2: Define variable a, b, c and x.

Step 3: Perform the operation  $a = x + t$ ,  $b = -x$ ,

$$c = x + x - b$$

Step 4: Print the value of a, b and c.

Step 5: Perform the getch function and exist  
the void main block.

Source code:-

```
#include <iostream.h>
#include <conio.h>
void main()
{
    int a, b, c, x;
```

```
x = 10;
```

```
clrscr();
```

```
a = x + t;
```

```
b = - x;
```

```
c = x + x - b;
```

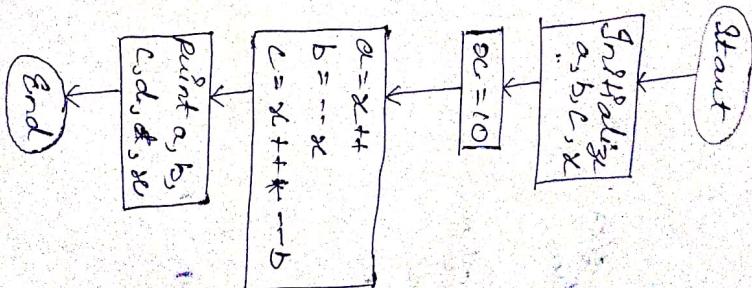
```
printf("The value of a=%d, b=%d, c=%d and  
x=%d", a, b, c, x);
```

3 getch();

Output :-

The value of a=10, b=-10, c=90 and x=11

10/10



## Practical No :- 03

35

Ques:-

Enter value of n : 12  
12 is even

Enter value of n : 3  
3 is odd

Program :-  
Check whether number is odd or even.

#include <stdio.h>

#include <conio.h>

void main()

{

int n, r;

clrscr();

printf("nEnter value of n: ");

scanf("%d", &n);

r = n % 2;

if (r == 0)

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

else

printf("n%d is odd.", n);

getch();

}

38.

Program 2:

Check if the entered year is a leap year  
or not

```
#include <stdio.h>
```

```
# include <conio.h>
```

```
void main()
```

```
{
```

```
int r, y;
```

```
clrscr();
```

```
printf("Enter the year ");
```

```
scanf("%d", &y);
```

```
r = y % 4;
```

```
rif (r == 0)
```

```
printf ("%d is a leap year ", y);
```

```
else
```

```
printf ("%d is not leap year ", y);
```

```
getch();
```

Output:-

Enter the year 2008

2008 is a leap year

Enter the year 2003

2003 is not a leap year

36

Output :-

Enter the alphabet : i  
i is a vowel

Enter the alphabet : s  
s is a consonant.

### Program 3:-

Check whether entered alphabet is a vowel or consonant.

```
#include <stdio.h>
#include <conio.h>
main()
{
```

```
char ch;
```

```
clrscr();
```

```
printf("Enter the alphabet : ");
```

```
ch = getch();
```

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

```
printf("%c is a vowel", ch);
```

```
else
```

```
printf("%c is a consonant", ch);
```

```
}
```

38

Program 4:

#include <stdio.h>  
#include <conio.h>  
void main()  
{

int a,b,c;  
clrscr();

printf("Enter 3 numbers");  
scanf("%d,%d,%d",&a,&b,&c);  
if ((a>b) & (a>c))  
printf (" %d is greater");  
else if ((b>a) & (b>c))  
printf (" %d is greater");  
else  
printf (" %d is greater");

38

Output :-

Enter 3 numbers

4  
8  
1  
b is greater.

38

OUTPUT:-

Enter single digit decimal no.: 1  
One

Enter single digit decimal no.: 20

Exam

Practical 1, Program 5:-  
Program to enter single digit decimal number from keyboard and print that digit in word form.

#include <stdio.h>  
#include <conio.h>

void main ()

{

```
int n;
char c;
printf("Enter single digit decimal no.: ");
if (n == 0)
    printf ("Zero ");
else if (n == 1)
    printf ("One ");
else if (n == 2)
    printf ("Two ");
else if (n == 3)
    printf ("Three ");
else if (n == 4)
    printf ("Four ");
else if (n == 5)
    printf ("Five ");
else if (n == 6)
    printf ("Six ");
else if (n == 7)
    printf ("Seven ");
```

13

child ( $n = 8$ )  
parent ( $\lceil \frac{n}{n} \rceil$  Eight),  
child ( $n = 2^a$ )  
parent ( $\lceil \frac{n}{n} \rceil$  Nine);

else

parent ("Exercise");

14

Output:-

Enter your choice  
4

Enter value of a and b 4 2

2

Program :-  
Program to perform addition, subtraction,  
multiplication using switch case

```
#include <stdio.h>
#include <conio.h>
void main()
{
```

```
int a, b, c, choice;
```

```
clrscr();
```

```
printf ("nEnter your choice");
```

```
scanf ("%d", &choice);
```

```
printf ("n 1. Addition");
```

```
printf ("n 2. Subtraction");
```

```
printf ("n 3. Multiplication");
```

```
printf ("n 4. Division");
```

```
printf ("n 5. Exit ");
```

```
if (choice >= 1 & choice <= 4)
```

```
case 1:
```

```
a = a + b;
```

```
printf ("n a + b = %d", a, b);
```

```
scanf ("%d", &a, &b);
```

```
switch (choice)
```

```
{
```

```
case 1:
```

```
a = a + b;
```

```
printf ("n a + b = %d", a, b);
```

```
break;
```

case 2:

```
    a = a + b;
    cout << "a + b = " << a << endl;
    cout << "a = " << a << endl;
    cout << "b = " << b << endl;
    break;
```

case 3:

```
    a = a * b;
    cout << "a * b = " << a << endl;
    cout << "a = " << a << endl;
    cout << "b = " << b << endl;
    break;
```

case 4:

```
    a = a / b;
    cout << "a / b = " << a << endl;
    cout << "a = " << a << endl;
    cout << "b = " << b << endl;
    break;
```

default:

```
    cout << "No operator" << endl;
    break;
```

```
getch();
```

*Handwritten Note:*

## PRACTICAL No :- 4

43

Ans:- Programs are conditional statement

QUESTION

OUTPUT:-

2	4	6	8	10	12	14	16	18	20
22	24	26	28	30	32	34	36	38	40
42	44	46	48	50	52	54	56	58	60
62	64	66	68	70	72	74	76	78	80
82	84	86	88	90	92	94	96	98	100

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int i;
    clrscr();
    for(i=2; i<100; i+=2)
    {
        printf("%d\t", i);
    }
}
```

OUTPUT:-

Program 2:- To print numbers from 1 to n.

```
#include <stdio.h>
```

```
#include <conio.h>
```

```
void main ()
```

```
{
```

```
int i, n, x;
```

```
putchar ("nEnter the value of n: ");
```

```
scanf ("%d", &n);
```

```
i = 1
```

```
while (i <= n)
```

```
{
```

```
x = i * 10;
```

```
if (x == 0)
```

```
print ("%d it", i);
```

```
else
```

```
i++;
```

```
}
```

```
getch ();
```

```
}
```

10 20 30 40 50 60 70 80 90 100

Enter the value of n=100

Scanned with CamScanner

Output:-

Enter the value of n : 5

Sum of all odd numbers is 9.

```

Program:-3
To sum of all odd numbers upto n.

#include <stdio.h>
#include <conio.h>
void main()
{
    int i, n, x, sum;
    clrscr();
    printf("Enter the value of n ");
    scanf("%d", &n);
    i = 1;
    sum = 0;
    do
    {
        x = i * 2;
        if (x == 1)
        {
            sum = sum + i;
        }
        i++;
    }
    while (i <= n);
    printf("Sum of all odd numbers is %d", sum);
}

```

while ( $i \leq n$ );  
printf("Sum of all odd numbers is %d", sum);  
getch();

71

Output:-

46

Program :-  
To print the output as  
1 2  
1 2 3 4  
1 2 3 4 5

1  
1 2  
1 2 3 4  
1 2 3 4 5

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int i, k;
    i = 1
    while (i <= 5)
    {
        k = 1
        while (k <= i)
        {
            printf("%d", k);
            k++;
        }
        printf("\n", k);
        i++;
    }
}
```

Output:

```

0
1
2
3
5
8
13
21
34
55
89
144
233
377
610
987
1592
2584

```

47

Programmer :- 5  
To print the output of Fibonacci series of  
1st 20 no.

```

#include <stdio.h>
#include <conio.h>
void main()
{
    int a, b, i, F;
    clrscr();
    a = 1;
    b = 0;
    printf("%d %d", a, b);
    for (i = 3; i <= 20; i++)
    {
        F = a + b;
        printf(" %d", F);
        a = b;
        b = F;
    }
}

```

~~12/10/2021~~

```

F = a + b;
printf(" %d", F);
a = b;
b = F;
}

```

~~getch();~~

## Practical No. 5

48

Aim:- Program on Arrays

# Program :-

To find the sum of 5 numbers (array)

```
#include <stdio.h>
#include <conio.h>
```

```
void main ()
```

```
{
```

```
int i, num [5], sum = 0;
```

```
clrscr();
```

```
printf ("Enter the element into array.");
```

```
for (i = 0; i < 5; i++)
```

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

```
printf ("The elements are ");
```

```
for (i = 0; i < 5; i++)
```

```
printf ("%d", num [i]);
```

```
for (i = 0; i < 5; i++)
```

```
sum = sum + num [i];
```

```
printf ("\n Sum of elements is : %d", sum);
```

```
getch ();
```

```
}
```

Output:-  
Enter the element into array: 3

4

5

6

7

Entered array elements are : 3 4 5 6 7  
Sum of elements are : 25

#

Output:-

Enter the value in array?

4

5

6

8

9

0

10

~~11  
12  
13~~

Largest number is 13

Program 2 :-  
To find the largest of the 10 numbers

#include <stdio.h>  
#include <conio.h>

void main()

{ int i, num[10], l;

clrscr();

printf("|\n Enter 10 values in array : ");

for (i=0; i<10; i++)  
scanf("%d", &num[i]);

l = num[0];

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

l = num[i];

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

if (l < num[i])

    l = num[i];

printf("|\n Largest number is %d ", l);

getch();

~~printf("|\n Largest number is %d ", l);  
getch();~~

OUTPUT :-

Enter the values into array:  
 -55  
 22  
 5  
 -3  
 4  
 11  
 16  
 -19  
 20

# Program 3  
 To find the number of positive nos in array

#include <stdio.h>  
 #include <conio.h>  
 void main ()

{  
 clrscr ();

int i, num [10], p;

printf ("Enter the values into the array");

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

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

p = 0;

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

if (num [i] > 0)

{  
 p = p + 1;

~~3~~

~~3~~ p = p + 1;

printf ("No. of positive numbers present in the  
 given array are: %d", p);  
 getch();  
 {

No. of positive numbers present in the  
 given array are: 5

Q3

Output:-

Enter the values in the array

2  
3  
4  
5  
6  
7  
8  
9

No. of odd numbers is 5

Program 4:-  
To find the odd numbers present in a array

```
#include <conio.h>
#include <stdio.h>
void main()
{
    clrscr();
    int i, num[10];
    printf("Enter the value into array : ");
    for (i = 0; i < 10; i++)
        scanf("%d", &num[i]);
    p = 0
    for (i = 0; i < 10; i++)
    {
        if (num[i] % 2 == 1)
            p = p + 1
    }
    printf("No. of odd numbers is %d ", p);
}
```

OUTPUT:-

Enters the value into array 2  
 4  
 6  
 9  
 1

~~Sorted array : 12 4 6 9~~

```
# Preprocessor 5
#include <stdio.h>
#include <conio.h>
void main ()
{
    int i,j, num [5], t;
    clrscr();
    printf ("Enter the values into array : ");
    for (i=0, j=0; i<5, j++)
        scanf ("%d", &num [j]);
    for (j=0, i=0; j<5; j++)
    {
        for (t=i+1, j=i+1; t<5; t++)
            if (num [i] > num [t])
            {
                num [t] = num [i];
                num [i] = t;
            }
    }
    printf ("Sorted array : ");
    for (i=0; i<5; i++)
        printf ("%d ", num [i]);
}
```

Enter elements of matrix x : 2

1  
2  
3  
4  
5  
6  
7  
8

Enter elements of matrix y : 3

1  
2  
3  
4  
5  
6  
7  
8

matrix:  
1 2 10  
2 2 24  
4 8 42

~~matrix:  
1 2 10  
2 2 24  
4 8 42~~

Program 6  
To print matrix multiplication

```
#include <stdio.h>
#include <conio.h>
void main ()
```

```
{clrscr();
```

```
int x[3][3], y[3][3], z[3][3];
int i, j, k, tij;
clrscr();
printf("To Enter elements of matrix x :\n");
for (i=0; i<3; i++)

```

```
    for (j=0; j<3; j++)

```

```
        scanf("%d", &x[i][j]);
    }
}

printf("To Enter elements of matrix y :\n");
for (i=0; i<3; i++)

```

```
    for (j=0; j<3; j++)
        scanf("%d", &y[i][j]);
}

for (i=0; i<3; i++)

```

```
    for (j=0; j<3; j++)
        for (k=0; k<3; k++)
            z[i][j] = z[i][j] + x[i][k] * y[k][j];
}

for (i=0; i<3; i++)

```

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

Output : Enter elements of matrix x :

1 2 3  
4 5 6  
7 8 9

Enter elements of matrix y :

1 2 3  
4 5 6  
7 8 9

Scarf ("r.d") & y [r][c]

3 4 5  
6 7 8  
9 0 1

Scarf ("r.d") & x [r][c]

1 2 3  
4 5 6  
7 8 9

Scarf ("r.d") & z [r][c]

36 39 42  
45 48 51  
54 57 60

```
scanf ("%d", &Y[0][0]);
```

3

```
for (x=0; x<3; x++)
```

```
for (c=0; c<3; c++)
```

```
t = 0;
```

```
for (k=0; k<3; k++)
```

```
t = t + x[0][k]*y[k][c];
```

```
for (j=0; j<3; j++)
```

```
2*x[j] = t;
```

```
2*x[j] = t;
```

```
printf ("Matrix z : ");
```

```
for (x=0; x<3; x++)
```

```
for (c=0; c<3; c++)
```

```
for (k=0; k<3; k++)
```

```
printf ("|%d|, d ", 2*x[j]);
```

```
printf ("\n");
```

```
getch();
```

*Handwritten note:*  
for (j=0; j<3; j++)

## PRACTICAL No. 6

55

Output:-

Enter your name  
My name is : Asher

Asher

#include <stdio.h>  
#include <conio.h>  
void main()  
{  
 clrscr();  
 char name[20];  
 printf("Enter your name: ");  
 scanf("%s", &name);  
 printf("My name is : %s, name");  
 getch();  
}

13

Enter a character or  
the character is a

#

Program 2:-  
To print the entered character

```
#include <stdio.h>
#include <conio.h>
```

```
void main ()
```

{

```
char a;
```

```
clrscr();
```

```
printf ("Enter a character : ")
```

```
a = getch();
```

```
printf ("\n the character is %c")
```

```
putchar (a);
```

```
getch();
```

```
}
```

Program 3:-

```
#include <stdio.h>
```

```
#include <conio.h>
```

```
void main ()
```

{

```
char a[50];
```

```
clrscr();
```

```
printf ("Enter a string : ");
```

```
gets (a);
```

```
printf ("\n The entered string is : ")
```

```
puts (a);
```

```
getch();
```

Output:-

Enter a string : bts  
The entered string is bts

my name is

Program 2:-  
To print the string in reverse order.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    char name[10] = " my name ";
    clrscr();
    printf(" my name is ");
    for (int i = 0; i < 10; i++)
    {
        printf("%c", name[i]);
    }
}
```

```

Program 5 :-  

To print reverse strings  

# include <stdio.h>  

# include <conio.h>  

void main()  

{  

    char str[10];  

    clrscr();  

    printf("Enter a string: ");  

    scanf("%s", &str);  

    clrscr();  

    printf("The reversed string is: %s", str);
}

```

OUTPUT:-

Enter a string: Hellon world  
 The reversed string is: drow wolleH



~~#~~ Program 2 :-  
To find the sum of digits of entered number.

```
#include <stdio.h>
#include <conio.h>
void sum (int n);
void main()
{
    clrscr();
    int n;
    printf ("Enter a number : ");
    scanf ("%d", &n);
    sum (n);
    getch ();
}
void sum (int n)
{
    int x, s=0;
    while (n != 0)
    {
        x = n % 10;
        s = s + x;
        n = n / 10;
    }
    printf ("The sum of digit is %d ", s);
    getch ();
}
```

Output:-  
Enter a number: 25  
~~sum of digits is 7~~

### Program 3 :-

Output:-

Enter two numbers : 28  
66  
Sum of two numbers is : 144

```
#include <stdio.h>
#include <conio.h>
void sum(int n1, int n2);
void main()
{
    clrscr();
    int n1, n2;
    printf("Enter two numbers: ");
    scanf("%d %d", &n1, &n2);
    sum(n1, n2);
    getch();
}

void sum(int n1, int n2)
{
    int a;
    a=n1+n2;
    printf("Sum of two numbers is: %d", a);
    getch();
}
```

18

# Program to calculate the total & average of 4 marks.

To calculate the total & average of 4 marks.

# include <stdio.h>

# include <conio.h>

void total (int m1, int m2, int m3, int m4);

void main ()

{

int a, b, c, d;

printf ("Enter four marks : ");

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

total (a, b, c, d);

getch();

}

int a, b, c, d;

printf ("Enter four marks : ");

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

void total (int m1, int m2, int m3, int m4)

{

int total;

total = m1 + m2 + m3 + m4

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

} // average (total);

void average (int tot)

{

float avg;

avg = tot / 4

printf ("\n Average is %.2f", avg);

Output:-

Enter four marks : 20

30

40

50

the total is 140  
average is 35.0000

### Program 5

To find the factorial of a number.

```
#include <stdio.h>
#include <conio.h>
int factorial (int n);
void main ()
{
    int n, fact;
    printf ("Enter a number:");
    scanf ("%d", &n);
    fact = factorial (n);
    printf ("%d Factorial of %d is %d", n, fact);
    getch();
}
```

```
int factorial (int n)
```

```
{
    int f;
    if (n == 1)
        return 1;
    else {
        f = n * factorial (n - 1);
        return (f);
    }
}
```

*16/02*

### Practical No. 8

Am:

```
#include <stdio.h>
#include <conio.h>
struct student
{
    int rollno;
    char name[20];
    int total;
} x;
void main()
{
    struct student x;
    clrscr();
    printf("Enter rollno : ");
    scanf("%d", &x.rollno);
    printf("Enter name : ");
    scanf("%s", x.name);
    printf("Enter total marks : ");
    scanf("%d", &x.total);
    printf("\n Student Name : %s", x.name);
    printf("\n Roll no. : %d", x.rollno);
    printf("\n Total : %d", x.total);
    getch();
}
```

# OUTPUT :-

Enter roll no, name and total of student  
1823

Name = Aashu  
Total = 500

Roll no = 1823

Name = Aashu  
Total = 500

64

## Program 2:- Employee comparison.

Output:-

Enter eno and salary : 5	20000
Enter eno and salary : 5	20000
both are equal	

```
#include <stdio.h>
#include <conio.h>
if (eno , salary ;
    {
        main()
{
    struct employee n,y;
    printf ("Enter eno and salary : ");
    scanf ("%d , &n.eno , &n.salary");
    printf ("Enter eno and salary : ");
    scanf ("%d , &y.eno , &y.salary");
    if (n.eno == y.eno & n.salary == y.salary)
        printf ("both are equal");
    else
        printf ("both are unequal");
}
```

#

Program 3 :-  
Fruit Structure

```
#include <stdio.h>
#include <conio.h>
struct fruit
{
    char name [20];
    int price, qty, total;
};

void main()
{
    struct fruit f[5];
    int k;
    clrscr();
    printf("\n Enter name, price & qty: ");
    for (k=0; k<5; k++)
    {
        scanf("%s %d %d", &f[k].name, &f[k].price,
              &f[k].qty);
        f[k].total = f[k].price * f[k].qty;
        f[k].total = f[k].price + f[k].qty;
    }
}
```

Output:-

Enter name, price & qty:

apple	20	5
mango	15	3
banana	50	9
cherry	30	2
grapes	30	15

~~name = apple , price = 20 , qty = 5  
 name = mango , price = 15 , qty = 3  
 name = banana , price = 50 , qty = 9  
 name = cherry , price = 30 , qty = 2  
 name = grapes , price = 30 , qty = 15~~

88

Program 4 :-

Output:-  
Enter records of 5 players:

Mr Dhoni	India	200
Virender	India	300
Murali	India	200
Rahit	India	200
Rahul	India	250

Player

Name

Tendulkar	India	200
Mr Dhoni	India	300
Virender	India	200
Murali	India	200
Rahit	India	200
Rahul	India	250

void main()

{

clrscr();

cout &lt;&lt; "Enter cricket player's t-i-

int i, k, &amp;x;

cout &lt;&lt; "Enter records of 5 players : ";

for (i = 0; i &lt; 5; i++)
 {
 cin &lt;&lt; s[i];
 cout &lt;&lt; endl;
 }

cout &lt;&lt; "Enter name, &amp;tname
 &amp;P[i] average)"

for (i = 0; i &lt; 5; i++)
 {
 cout &lt;&lt; s[i];
 cout &lt;&lt; endl;
 }

}

}

}
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[0];
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[1];
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[2];
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[3];
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[4];
 cout &lt;&lt; endl;
}

}
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[0];
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[1];
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[2];
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[3];
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[4];
 cout &lt;&lt; endl;
}

}
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[0];
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[1];
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[2];
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[3];
 cout &lt;&lt; endl;
 cout &lt;&lt; "Average score is : " &lt;&lt; P[4];
 cout &lt;&lt; endl;
}

58

3  
3  
3  
party ("\\n Teamwir players name -\\n");  
for(i=0; i<5; ++i)  
{  
 party ("\\n I.S.U.S.Y.D \\n", pt[i].name,  
 pt[i].name, pt[i].average);  
}

3  
3  
3  
patch();

59

Program 5 :-

Output :-  
 Roll no. = 23  
 Name = Ashu Salary = 50000

#include <stdio.h>  
 #include <conio.h>  
 #include <string.h>

int salary;

struct employee  
 { int id; char name [10]; struct employee \*next; };

void main()

```
{
    clrscr();
    int i;
    struct employee s = { 22, "prakash", 25000 };
    printf ("Roll no. = %d \t Name = %s \t", s.id, s.name, s.salary);
    getch();
}
```

*Prashant*  
 25/10/2022

Aim:- Programs on pointers in C - language  
OUTPUT :-

70

#  
Program 1:-

# include <stdio.h>  
# include <conio.h>  
void main ()

{

    char c;

    int a = 12, b = 4, \*x, \*y, \*p, \*q;

    p = &a;

    q = &b;

    x = &p \* \* 2 - 6;

    y = 4 \* (\*p - \*q) + 10;

    printf ("\\n a = %.d", a);

    printf ("\\n b = %.d", b);

    printf ("\\n x = %.d", x);

    printf ("\\n y = %.d", y);

getchar();

$$\begin{array}{l} a = 12 \\ b = 4 \\ x = 42 \\ y = 42 \end{array}$$

# OUTPUT:-

sum = 150

~~Program 2:~~  
#include <stdio.h>  
#include <conio.h>  
void main ()

{  
clrscr();

int arr[5] = {10, 20, 30, 40, 50};

int \* p, sum=0;

p = arr[0];

for (i=0; i<5; i++)

sum = sum + p[i];

p = p + 1;

printf ("The sum = %d", sum);

getch();

#

ii

# OUTPUT

x = 30

72

```
Praguaro, 3:  
# include <stdio.h>  
# include <conio.h>  
void change( int * p );  
void main()  
{
```

```
    clrscr();
```

```
    int x = 20;
```

```
    change( &x );
```

```
    printf( " %d ", x );
```

```
    getch();
```

```
}  
void main( int f_p )
```

```
{  
    f_p = * p + 10; }
```

## OUTPUT

Before exchange  $x = 10$   $y = 20$   
After exchange  $x = 20$   $y = 10$

73

Program 4:-  
Program 4:-  
#include <stdio.h>  
#include <conio.h>  
void exchange (int \*a, int \*b);  
void main()  
{  
 int x, y;  
 x = 10;  
 y = 20;  
 printf ("Before exchange: x = %d, y = %d\n", x, y);  
 exchange (&x, &y);  
 printf ("After exchange x = %d, y = %d\n", x, y);  
 getch();

void exchange (int \*a, int \*b)

```
{  
    int t;  
    t = *a;  
    *a = *b;  
    *b = t;  
}
```

✓  
25/07

Aim:- Program on file handling

Output:-

```
#include <stdio.h>
#include <conio.h>
#include <string.h>
```

```
int main()
```

```
{FILE *fp;
```

```
char *data[150];
```

```
printf ("Opening the file test.c in write mode\n");

```

```
if (fp = fopen ("test.c", "w"))
```

```
printf ("\"Could not open file test.c\"\n");
return 2;
```

```
printf ("\n Enter some text from keyboard
to write in file.");
while (scanf ("%s", data) > 0)
```

```
{fputs (data, fp);
}
```

```
fputs ("\n", fp);
}
```

```
printf ("\"Using the file test.c\"");
fclose (fp);
return 0;
}
```

```
int main ()
```

```
{FILE *fp;
```

```
int i, j = 2, k = 3, num;
```

```
fp = fopen ("test.c", "a");
```

```

    putio (i, fp);
    publo (j, fp);
    puolu (k, fp);
    fp = fopen ("text.c", "r");
    while (getw (fp) != EOF);

```

Program 2 :-

```

#include <stdio.h>
#include <conio.h>
int main()
{
    char name [200];
    int age, length;
    FILE *fp;
    fp = fopen ("text", "text", "w");
    fpunt (fp, "1. S 2d", "fush 2 request", "5");
    length = ftell (fp);
    munind (fp);
    fscanf (fp, "%d", &age);
    fscanf (fp, "%d", &name);
    place (fp);
    point ("Name : ", &name, age);
    point ("Age : ", &age);
    point ("Total number of characters in file is %d", length);
    return 0;
}

```

18/02/2022