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18

Output:
** Demonstration of Datatypes **

Enter your Roll Number:
1818

Enter your Name:
Aashutosh

Enter your mobile number:
987654

Enter your grade:
A

Enter your Percentage:
99

Your roll no is : 1818
Your Name is : Aashutosh
Your mobile number is : 987654
Your grade is : A
Your percentage : 99.00000

Practical-1

25

Aim : write a program to understand the basic datatypes and I/O

Source code :

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int roll,
    char name[50];
    long double mob;
    char grade;
    float per;
    class CD;
    printf("** Demonstration of datatypes **\n");
    printf("Enter your Roll Number : \n");
    scanf("%d", &roll);
    printf("Enter your Name : \n");
    scanf("%s", name);
    printf("Enter your mobile number : \n");
    scanf("%ld", &mob);
    printf("Enter your grade : \n");
    scanf("%c", &grade);
    printf("Enter your percentage : \n");
    scanf("%f", &per);
    printf("Your roll number is : %d\n", roll);
    printf("Your name is : %s", name);
    printf("Your mobile number is : %ld\n", mob);
    printf("Your grade is : %c\n", grade);
    printf("Your percentage is : %f\n", per);}
```

PS.

Program C "Your grade is 'A'"
Program C "Your percentage is 100%",
given 100;

g

26

Output:
***** Area of circle *****
Enter the radius
15

Area of circle is : 706.950012



Program 2

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

float pi=3.142

float r, AOC;

clrscr();

printf("Area of circle is %f\n");

printf("Center of circle is (%f,%f)",

r, AOC);

printf("Radius of circle is %f", r);

given r;

g

Enter First Number? : 24
 Enter Second Number? : 12
 Addition is : 36.00
 Subtraction is : 12.00
 Multiplication is : 228.00
 Division is : 2.00

PRACTICAL NO-2

Aim : Write a C program to show different types of operators :

a) Arithmetic operators :

Source code :

```

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

void main()
{
  float n1,n2,sum,sub,mul,div;
  clrscr();
  printf("Enter First Number : ");
  scanf("%f",&n1);
  printf("Enter Second Number : ");
  scanf("%f",&n2);
  add = n1+n2;
  sub = n1-n2;
  mul = n1 * n2;
  div = n1 / n2;
  printf("Addition is : %.f",add);
  printf("Subtraction is : %.f",sub);
  printf("Multiplication is : %.f",mul);
  printf("Division is : %.f",div);
  getch();
}
  
```

(b) Logical operators

```

#include <stdio.h>
#include <conio.h>
void main()
{
    int x,y,v1,v2,v3,v4,v5;
    clrscr();
    printf("Enter First value : \n");
    scanf("%d",&x);
    printf("Enter Second value : \n");
    scanf("%d",&y);
    printf("Enter third value : \n");
    scanf("%d",&z);
    v1 = (x < y) || (z > y);
    v2 = (x > y) && (z < y);
    v3 = !(x < y);
    v4 = !(x == y);
    v5 = !(x == y);
    printf("Value1 is : %d\n",v1);
    printf("Value2 is : %d\n",v2);
    printf("Value3 is : %d\n",v3);
    printf("Value4 is : %d\n",v4);
    printf("Value5 is : %d\n",v5);
    getch();
}

```

Output:

```

ENTER FIRST VALUE : 9
ENTER SECOND VALUE : 8
ENTER THIRD VALUE : 2
Value1 is : 0
Value2 is : 1
Value3 is : 1
Value4 is : 0
Value5 is : 1

```

Output

Enter First Number : 23
 Enter Second Number : 20
 Largest Number is : 23

c) Tertiary Operator?

#include <stdio.h>

#include <conio.h>

void main()

{

```
int a,b,c;
clrscr();
printf("Enter First Number :");
scanf("%d",&a);
printf("Enter Second Number :");
scanf("%d",&b);
```

c = a>b? a: b;

```
printf("Largest Number is : %d"
getch();
```

By

PRACTICAL NO. 3

Aim:- write a program to find whether the entered year is leap or not.

Source code:-

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

```
void main ()
```

{

```
int n;
clrscr();
printf ("Enter a year : ");
scanf ("%d", &n);
```

```
if (n%4 == 0)
```

{

```
    printf ("It's a leap year")
```

```
else
```

{

```
    printf ("Not a leap year")
```

```
getch();
```

Dhaval

Output:-

```
Enter a year : 2016
Not a leap year
```

```
Scanned with CamScanner
```

Program 2 ~ To find even and odd

Algorithm:

- Step 1 : Specify the header file needed in the program.
- Step 2 : Inside the void main block define variable integer n.
- Step 3 : Ask the user to enter value and store it in variable n.
- Step 4 : If the number is divisible by 2 then it's a Even Number else odd number.

Code :

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

```
void main()
```

```
{
```

```
int n;
```

```
clrscr();
```

```
printf("Enter the value of n : ");
```

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

```
if (n % 2 == 0)
```

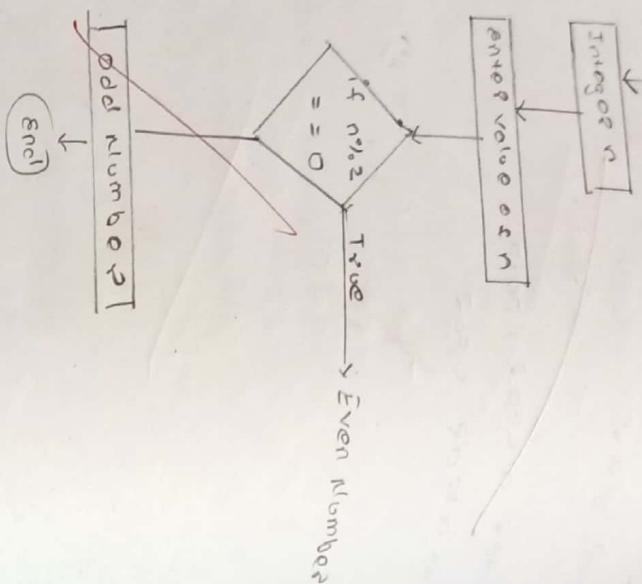
```
    printf ("even numbers");
```

```
else
```

```
    printf ("odd number");
```

```
getch();
```

3



Output:-

Enter the value of n : 4

Even Number

Enter the value of n : 5

Odd Number

16

Program 3 : To check whether it is a vowel or consonant

code:

If entered character
is vowel
else consonant

void main()

R

char ch;
clrscr();

print("Enter an Alphabet");

scanf("%c", &ch);

if(ch == 'a' || ch == 'A' || ch == 'e' || ch == 'i'
|| ch == 'o' || ch == 'O')
ch = 'v';
else
ch = 'c';

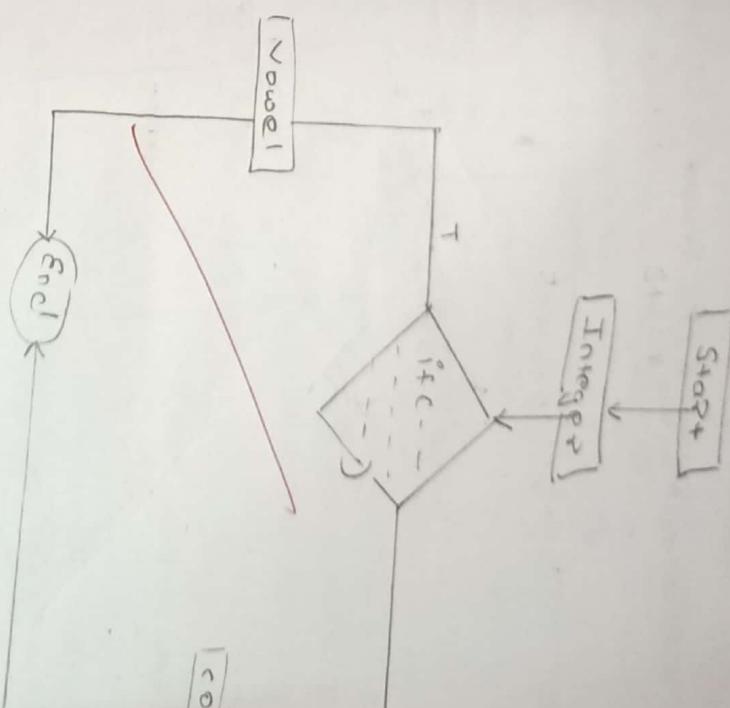
print("Entered character is vowel");

else

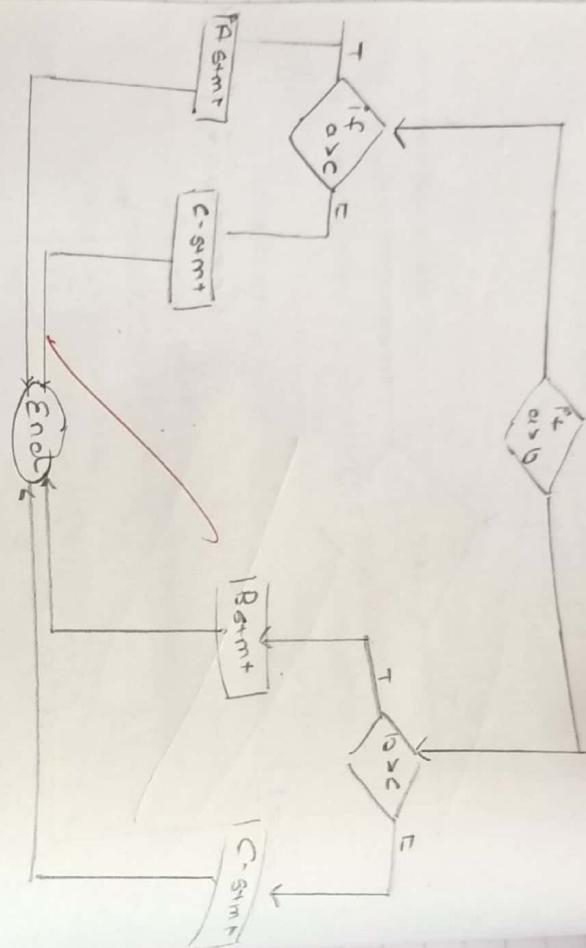
print("Entered character is consonant").

getch();

}



Output:
Entered character is a
vowel
Entered character is consonant.



Program 4: On-Demand

三

۱۰۷

It is also common

wood mainly

26

13608 C-1

Proposed C¹⁴ calibration value of $c_{360} = 11.7$.

Scan < " / . d - / . d - / . d " , c , b , c) ;

Carv (5)

10 11
12 13
14 15
16 17
18 19
20 21

Prestige 1400

• 156

$$\sum_{k=1}^n P_{\theta_k}(\cdot) = \sum_{k=1}^n P_{\theta_k}(\cdot | \mathcal{D}_{\text{old}})$$

42

٢٣

2180

CBSE ICSE

2

U.S. GOVERNMENT PRINTING OFFICE: 1909, 10-1250.

7. *Isabergosia* "cinnamomea" Schlecht.

2

四

Output

Enter value of abc : so = 900
1200 is larger.

3

卷之三

Q6

Program 3 : Program will print single digit in case of number
by pressing an option given in the
menu.

Mode :-

All * include ~~options~~

to include options
information

E

Mode :-

choice("Please enter a number : ");

scanf("%d", &n);

if (n == 0)

printf("In zero");

else if (n == 1)

printf("In one");

else if (n == 2)

printf("In two");

else if (n == 3)

printf("In three");

else if (n == 4)

printf("In four");

else if (n == 5)

printf("In five");

else if (n == 6)

printf("In six");

else if (n == 7)

printf("In seven");

else if (n == 8)

printf("In eight");

else if (n == 9)

Output Single digit numbers
Enter single digit numbers
Five

18

Output
1. Addition
2. Subtraction
3. Division
4. Multiplication
Enter your choice : 1
Enter the value of a : 5
Enter the value of b : 10
 $10 + 5 = 15$

35

else if (ch == a)
printf("In multiplication ");
else
printf("Enter single digit Number ");
getch();
}

}

Program 6: Program to accept arithmetic operation using switch case.

Code:
#include <cs50.h>
#include <stdio.h>
#include <math.h>

(opmainc)

#include <iostream>, resto, ch;

else if (ch == c);

else if (ch == d);

else if (ch == e);

else if (ch == f);

else if (ch == g);

else if (ch == h);

else if (ch == i);

else if (ch == j);

else if (ch == k);

else if (ch == l);

else if (ch == m);

else if (ch == n);

else if (ch == o);

else if (ch == p);

else if (ch == q);

else if (ch == r);

else if (ch == s);

else if (ch == t);

else if (ch == u);

else if (ch == v);

else if (ch == w);

else if (ch == x);

else if (ch == y);

else if (ch == z);

else if (ch == A);

else if (ch == B);

else if (ch == C);

else if (ch == D);

else if (ch == E);

else if (ch == F);

else if (ch == G);

else if (ch == H);

else if (ch == I);

else if (ch == J);

else if (ch == K);

else if (ch == L);

else if (ch == M);

else if (ch == N);

else if (ch == O);

else if (ch == P);

else if (ch == Q);

else if (ch == R);

else if (ch == S);

else if (ch == T);

else if (ch == U);

else if (ch == V);

else if (ch == W);

else if (ch == X);

else if (ch == Y);

else if (ch == Z);

else if (ch == a);

else if (ch == b);

else if (ch == c);

else if (ch == d);

else if (ch == e);

else if (ch == f);

else if (ch == g);

else if (ch == h);

else if (ch == i);

else if (ch == j);

else if (ch == k);

else if (ch == l);

else if (ch == m);

else if (ch == n);

else if (ch == o);

else if (ch == p);

else if (ch == q);

else if (ch == r);

else if (ch == s);

else if (ch == t);

else if (ch == u);

else if (ch == v);

else if (ch == w);

else if (ch == x);

else if (ch == y);

else if (ch == z);

else if (ch == A);

else if (ch == B);

else if (ch == C);

else if (ch == D);

else if (ch == E);

else if (ch == F);

else if (ch == G);

else if (ch == H);

else if (ch == I);

else if (ch == J);

else if (ch == K);

else if (ch == L);

else if (ch == M);

else if (ch == N);

else if (ch == O);

else if (ch == P);

else if (ch == Q);

else if (ch == R);

else if (ch == S);

else if (ch == T);

else if (ch == U);

else if (ch == V);

else if (ch == W);

else if (ch == X);

else if (ch == Y);

else if (ch == Z);

else if (ch == a);

else if (ch == b);

else if (ch == c);

else if (ch == d);

else if (ch == e);

else if (ch == f);

else if (ch == g);

else if (ch == h);

else if (ch == i);

else if (ch == j);

else if (ch == k);

else if (ch == l);

else if (ch == m);

else if (ch == n);

else if (ch == o);

else if (ch == p);

else if (ch == q);

else if (ch == r);

else if (ch == s);

else if (ch == t);

suchen von)

```

    {
        case 1 : res = n1 + n2;
        cout << "Addition is " << res;
        break;
    }

```

```

    case 2 : res = n1 - n2;
        cout << "Subtraction is : " << res;
        break;
    }

```

```

    case 3 : res = n1 / n2;
        cout << "Division is : " << res;
        break;
    }

```

```

    case 4 : res = n1 * n2;
        cout << "Multiplication is " << res;
        break;
    }

```

default : cout << "Enter valid choice";

```

    {
        getch();
        system("cls");
    }

```

```

}

```

```

cout << "Enter value of n1" << endl;
cin >> n1;

```

```

cout << "Enter value of n2" << endl;
cin >> n2;

```

}

10 00 100
2 4 6 8 10 12 14 16
22 24 26 28 30 32 34 36
44 46 48 50

20 22 24 26 28 30 32 34
40 42 44 46 48 50

To program to print numbers up to 50 using for loop
code
1) include <csdios.h>
H include <conio.h>
<read macro>

2

#include <iostream.h>

for (i=2 ; i<=50 ; i+=2)
2

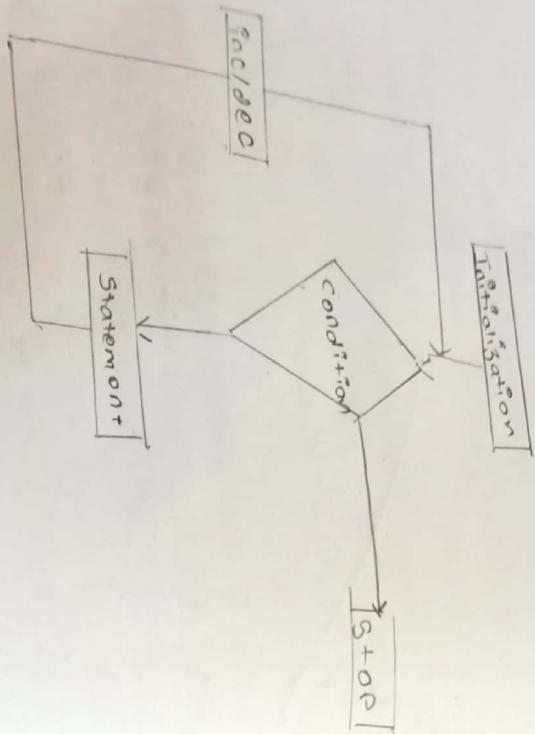
printf ("odd %d\n", i);

3
getch();

Algorithm:

Start

- 1) include appropriate libraries
- 2) use for conditional loop to determine the declared variable i is 0
- 3) increment the starting variable by 2
- 4) print the output.



Q

8

ARMSTRONG

Q
Write a program to know the number is Armstrong or not
Includes <stdio.h>
Includes <conio.h>
void main()

Q

```
int n, dig, ans = 0, t;
```

```
clrscr();
```

```
printf("Enter Number : ");
```

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

```
t = n;
```

```
while (n > 0)
```

```
dig = n % 10;
```

```
ans = ans + (dig * dig * dig);
```

```
n = n / 10;
```

Output:

Enter Number : 153
153 is Armstrong Number

Q
if (t == ans)
printf("Number is Armstrong", t);

else
printf("Number is not Armstrong");

scanf("nEnter Number : ");
if (ans == t)
printf("Number is Armstrong");
else
printf("Number is not Armstrong");

Q

write a program to obtain following output

GOC+

Algorithm

Spec 4: Imperial 3D model with prototype images

Spec. 1 USE NUMBER CONVENTIONAL STATEMENT AND
1000S LOSS THAN EQUAL TO 5% INCREMENT BY T

Step 3: In another condition check values starting from 12 to 15.

~~5 + 0 = 5~~

C 886

It's probably a company that

normative

卷之三

C 199 C 8 2

100

2

۱۷

11

write a program to find a following output

1	5	5	5	5	5
2	2	0	3	3	3
3	0	0	0	0	0
4	4	4	4	4	4
5	5	5	5	5	5

Source code

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

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

```
void main()
```

```
{
```

```
int i,j;
```

```
clrscr();
```

```
for(i=1;i<=5;i++)
```

```
{
```

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

```
{
```

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

```
if(j==i)
```

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

```
}
```

```
getch();
```

```
g
```

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

```
getch();
```

3

want a program to output following output
 source code.

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15

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

8

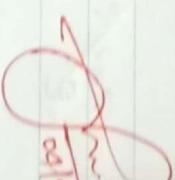
```
int i, j;
for (j = 2; j <= 5; j++)
for (i = 1; i <= j; i++)
  print("%d", i);
```

9

```
int i, j;
for (i = 1; i <= 5; i++)
for (j = 1; j <= i; j++)
  print("%d", j);
```

10. print C "10" 5;

several;

11. 

12. 100000

Algorithm:

Step 1: Initialise three variable with datatype intiger.

Step 2: use nested for conditional statement and

check if $i + j$ less than or equal to 5
 and increment $i + j$ by 1

Step 3: use another for conditional statement with range from 1 and less than equal to previous condition

variable and increment by 1

Step 4: Print the variable $i + j$ with datatype

Step 5: Get stop.

11

PRACTICAL NO. 5

Ques 4

Write a program to find largest of the numbers.

Numbers

code
to make astdio.h
to include <conio.h>

void main()

int i, num[25], sum=0;

clrscr();

printf("Enter two elements in array");

scanf("%d", &i);

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

{

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

printf("Entered elements are ");

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

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

sum = sum + num[i];

printf("Sum of elements is %d",

sum);

42

4

5

6

7

8

9

10

11

12

13

14

15

16

17

error array elements are : 3 6 5 0 7

sum + element : 25

Output :

Entered number at elements : 5

Entered numbers : 1

Entered numbers : 2

Entered numbers : 3

Entered numbers : 4

Entered numbers : 5

Sum of elements : 15

Average of elements : 3

43
11 Program to find sum and average of all elements of array

File name <sum.c>

File include <conio.h>

Void main ()

{

float avg; int sum=0;

float avg;

int sum;

printf("Enter number of elements : ");

scanf("%d", &n);

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

{

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

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

{

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

sum = sum + a[i];

avg = sum / n;

printf("Sum of elements = %d", sum);

printf("Average of elements = %.4f", avg);

getch();

Output:

Enter number of elements : 5

Enter number : 23

Enter number : 45

Enter number : 21

Enter number : 12

Sorted elements are :

12

21

23

45

77

Print C in sorted numbers abc. "];
for C = 0; i < n; i++)
E

Print C' in "abc" as 2:5].

getchar;

E

Program for finding largest number up to 0-9
include <stdio.h>
include <conio.h>

void main()

E

#include <iostream.h>; main, max;

printf("Enter Number of elements = ");
scanf("%d", &n);

for C = 0; i < n; i++)

E

printf C"Enter Number ",);
scanf C" %d " &arr[2],);

3

max = arr[0];

46

for $C_i = 0$; $i \in \{1, 2, \dots, n\}$

if $C_{i+1} > \text{max}$

else

$\text{max} = C_{i+1}$

Enter? Number? : 34

Enter? Number? : 12

Enter? Number? : 10

46

if

$C_{i+1} > \text{max}$

$\text{max} = C_{i+1}$

else

Enter? Number? : 112

Enter? Number? : 39

Enter? Number? : 67

Largest element is : 112

Program "largest element is %d of " max".
Scanf("Enter numbers: ");
for (i=0; i<n; i++)
 scanf("%d", &a[i]);
max=a[0];
for (i=1; i<n; i++)
 if (a[i]>max)
 max=a[i];
printf("Largest element is %d of %d", max, n);

largest = 112

Enter the elements of matrix m .

47

To print matrix addition

Include condition

Handle non-matrix

void main()

Enter the element of matrix n .

int i,j;

clrscr();

Print r " Enter the element of matrix n . " ;

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

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

scanf("%d", &m23[j]);

matrix sum :.

3

Print r " Enter the element of matrix ' ' ;

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

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

scanf("%d", &m23[j]);

scanf("%d", &n23[j]);

2

for $\rho(x=0, y=3, z=4)$

for $\rho(x=0, y=3, z=4)$

$\sum 2x32y3 = m2z2y3 + n3x52y3$

$\sum 2x32y3 = m2z2y3 + n3x52y3$

$\sum 2x32y3 = m2z2y3 + n3x52y3$

$\rho(\text{max}(x, \text{sum}))$

$\rho(x=0, y=3, z=4)$

3

gehen

~~Wiederholung~~

03

OUTPUT:
Enter Number : 3
sum of digit = 6

Enter Number : 124
sum of digit = 7

51

PRACTICAL NO. 6

Aim : FUNCTIONS

Program 1 : Sum of digits of Entered Numbers

```
#include <csudio.h>
#include <conio.h>
void abc (int)
void main()
{
    clrscr();
    int n;
    printf ("Enter Number : ");
    scanf ("%d", &n);
    abc(n);
    getch();
}

void abc (int n)
{
    int r, s=0;
    while (n!=0)
    {
        r = n % 10;
        s = s + r;
        n = n / 10;
    }
    printf ("Sum of Digits = %d ", s);
}
```

Scanned with CamScanner

12.

PROGRAM 2 : Average of 3 entered numbers

```
#include <stdio.h>
#include <conio.h>
void avg (int);
void sum (int, int, int);
void main ()
```

{

```
int x, y, z;
clrscr();
printf ("IN Enter values of x,y,z");
scanf ("%d %d %d", &x, &y, &z);
sum(x, y, z);
getch();
```

}

```
void sum (int a, int b, int c)
```

{

```
int s;
s = a+b+c;
avg(s);
```

}

```
void avg (int sum)
```

{

```
float avg;
avg = sum/3.0
printf ("Average : %f", avg);
```

}

52

Output:

```
ENTER value of x,y,z : 9 10 15
average = 10.00000
```

28

Output :

Enter Number : 36
Enter Number : 36.

53

Program 3 : Print digits of entered Number

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

{

ABCBCD;
int m;
m = get_no();
printf ("In Entered Number : %d", m);
getch();

}

int get_no (void).

{

int num;
print ("Enter Number : ");
scanf ("%d", &num);
"ChBN (num);

}

PRACTICAL NO.7

Aim : Program using String functions

Program : To read string of words using functions.

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

```
{
```

```
clrscr();
```

```
char w1[20], w2[20], w3[20], w4[20];
printf("Enter text in word1: ");
scanf("%s %s %s %s", w1, w2, w3, w4);
printf("In word1 = %s ", w1);
printf("In word2 = %s ", w2);
printf("In word3 = %s ", w3);
printf("In word4 = %s ", w4);
getch();
```

}

76

Program :- Read lines of text using putchar

#include <conio.h>

#include <config.h>

†#include <string.h>

void main()

{

clrscr();

char city[6] = "Paris";

int k;

for (k=0, k<5, k++)

{

putchar(city[k]);

printf ("\n");

}

getch();

8

56

Output :-

Enter?

P

A

R

I

S

Program 3 : Read lines of text using gets()

```
#include <stdio.h>
#include <conio.h>
#include <string.h>
void main()
{
    clrscr();
    clrscr();
    printf("Enter line of text: ");
    gets();
    puts();
    getch();
}
```

PG

PRACTICAL NO. 2

Aim: Program of structures

Program 1: Write a C-program to create employee database using array or structure

```
#include <csd101.h>
#include <conio.h>
```

```
void main()
```

```
{
```

```
struct emp1
```

```
{
```

```
int id;
```

```
char name[20];
```

```
char add[30];
```

```
};
```

```
struct emp1 e[50];
```

```
int size;
```

```
printf("How many records you want to
```

```
enter + "\");
```

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

```
for
```

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

{

printf("In%od Enter the Id:", i);

scanf("%d", &EiJ.id);

printf("In%od Enter your Name:", i);

scanf("%s", EiJ.name);

printf("In%od enter your Address:", i);

scanf("%s", EiJ.address);

}

printf("In\nemployee record\n")

printf("Id Name Address\n"),

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

{

printf("%d %s %s", EiJ.id,

EiJ.name, EiJ.address);

}

getch();

}

Program 2: Student Information 0

Structure definition

#include <conio.h>

struct student

{

int rollno;

char name[20];

int total;

};

void main()

{

struct student x;

clrscr();

printf("Enter your name, roll no. & students:");

scanf("%s %d", &x.name, &x.rollno, &x.total);

x.total =

print("Roll No = %d, Name = %s, Total = %d",

x.rollno, x.name, x.total);

Print(" " in Name = "%s", x.name),

Print(" " in Total = "%d", x.total),

getch();

}

Output :-
Enter roll no value in 2 rows! The students:
1818
PASHOTOSH
43

roll no = 1818

Name = PASHOTOSH

Total = 43

108

Output

Enter E_no and salary : 18 23500

Enter E_no and salary : 18 23500

Both are equal

Enter E_no and salary : 3 15000

Enter E_no and salary : 4 12000

both are unequal.

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Program 3: Employee comparison

```
#include <csdpc.h>
```

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

```
struct employee
```

```
{
```

```
    int E_no ;
```

```
    int salary ;
```

```
};
```

```
void main()
```

```
{
```

```
    struct employee r,s,y;
```

```
    printf("Enter E_no and salary : ");
```

```
    scanf("%d %d", &r.E_no, &r.salary);
```

```
    printf("Enter E_no and salary : ");
```

```
    scanf("%d %d", &s.E_no, &s.salary);
```

```
    if(r.E_no == s.E_no & r.salary == s.salary)
```

```
{
```

```
        printf("both are equal");
```

```
}
```

```
else
```

```
    printf(" both are unequal");
```

```
getch();
```

```
}
```