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ROLL NO.:	12114138
BRANCH:	ELECTRICAL ENGINEERING
SECTION:	B-07
SUBJECT:	BOP PRACTICAL

List of Experiments

- 1.** Write a program to print HELLO World message on o/p screen.
- 2.** Write a program to find sum of 2 numbers and then display the sum on o/p screen.
- 3** Write a program to find area of circle by inputting radius from keyboard.
- 4** Write a program to calculate simple interest.
- 5** Write a program to check whether a number is even or odd.
- 6** Write a program to check whether a year is leap year or not.
- 7** Write a program to find largest among 3 numbers using else-if ladder.
- 8** Write a program to print grade of students using else-if ladder.
- 9** Write a program to print all the numbers between 10 and 20
- 10** Write a program to find the factorial of number given through the keyboard
- 11** Write a program to print out the sum of first n natural number using while loop
- 12** Write a program for Sum of two matrices.
- 13** Write a program to find SUM and AVERAGE of two integer Numbers using User Defined Functions.
- 14** Write a program to read two Strings & Concatenate the Strings.
- 15** Write a program to Copy one String into another.

1. HELLO WORLD MESSAGE

```
#include<stdio.h>
int main(){
    printf("HELLO WORLD\n");
    return 0;
}
```

HELLO WORLD

2. Sum of 2 numbers and then display the sum on o/p screen.

```
#include<stdio.h>
int main(){
    int a=4,b=5;
    printf("The sum is %d\n",a+b);
    return 0;
}
```

The sum is 9

3. Area of circle by inputting radius from keyboard.

```
#include<stdio.h>
int main(){
    float r;
    printf("Enter the radius of the circle\n");
    scanf("%f",&r);
    printf("The area of the circle is %.2f\n",3.14*r*r);
    return 0;
}
```

Enter the radius of the circle

7

The area of the circle is 153.86

4. Calculate simple interest.

```
#include<stdio.h>
int main(){
    int p=100,r=8,t=5;
    printf("The simple interest is %d\n",(p*r*t)/100);
    return 0;
}
```

The simple interest is 40

5. Check whether a number is even or odd.

```
#include<stdio.h>
int main(){
    int a=10;
    if(a%2==0){
        printf("Even Number\n");
    }
    else{
        printf("Odd Number\n");
    }
    return 0;
}
```

Even Number

6. Check whether a year is leap year or not.

```
#include<stdio.h>
int main(){
    int year;
    printf("Enter the Year\n");
    scanf("%d",&year);
    if(year%400==0 || (year%4==0 && year%100!=0)){
        printf("%d is a Leap Year\n",year);
    }
    else{
        printf("%d is not a Leap Year\n",year);
    }
    return 0;
}
```

Enter the Year

2022

2022 is not a Leap Year

7. Largest among 3 numbers using else-if ladder.

```
#include<stdio.h>
int main(){
    int a=4,b=5,c=10;
    if(a>b && a>c){
        printf("a is the largest number\n");
    }
    else if(b>c && b>a){
        printf("b is the largest number\n");
    }
    else if(c>a && c>b){
        printf("c is the largest number\n");
    }
    else{
        printf("All numbers are equal\n");
    }
    return 0;
}
```

c is the largest number

8. Grade of students using else-if ladder.

```
#include<stdio.h>
int main(){
    int num;
    printf("Enter Your Marks\n");
    scanf("%d",&num);
    if(num>85){
        printf("GRADE A\n");
    }
    if(num<=85 && num>70){
        printf("GRADE B\n");
    }
    if(num<=70 && num>60){
        printf("GRADE C\n");
    }
    if(num<=60 && num>35){
        printf("GRADE D\n");
    }
    if(num<=30){
        printf("GRADE E\n");
    }
    return 0;
}
```

Enter Your Marks

96

GRADE A

9. Print all the numbers between 10 and 20

```
#include<stdio.h>
int main(){
    for(int i=10;i<=20;i++){
        printf("%d ",i);
    }
    return 0;
}
```

10 11 12 13 14 15 16 17 18 19 20

10. Factorial of number given through the keyboard

```
#include<stdio.h>
int main(){
    int num,fact=1;
    printf("Enter the number\n");
    scanf("%d",&num);
    for(int i=2;i<=num;i++){
        fact=fact*i;
    }
    printf("The factorial of number %d is %d\n",num,fact);
    return 0;
}
```

Enter the number

6

The factorial of number 6 is 720

11. Sum of first n natural number.

```
#include<stdio.h>
int main(){
    int n,sum=0;
    printf("Enter the value of n\n");
    scanf("%d",&n);
    for(int i=0;i<=n;i++){
        sum+=i;
    }
    printf("The sum of first %d natural numbers are %d\n",n,sum);
    return 0;
}
```

Enter the value of n

10

The sum of first 10 natural numbers are 55

12. Sum of two matrices

```
#include <stdio.h>
int main() {
    int r, c, a[100][100], b[100][100], sum[100][100], i, j;
    printf("Enter the number of rows (between 1 and 100): ");
    scanf("%d", &r);
    printf("Enter the number of columns (between 1 and 100): ");
    scanf("%d", &c);

    printf("\nEnter elements of 1st matrix:\n");
    for (i = 0; i < r; ++i)
        for (j = 0; j < c; ++j) {
            printf("Enter element a%d%d: ", i + 1, j + 1);
            scanf("%d", &a[i][j]);
        }

    printf("Enter elements of 2nd matrix:\n");
    for (i = 0; i < r; ++i)
        for (j = 0; j < c; ++j) {
            printf("Enter element b%d%d: ", i + 1, j + 1);
            scanf("%d", &b[i][j]);
        }

    for (i = 0; i < r; ++i)
        for (j = 0; j < c; ++j) {
            sum[i][j] = a[i][j] + b[i][j];
        }

    printf("\nSum of two matrices: \n");
    for (i = 0; i < r; ++i)
        for (j = 0; j < c; ++j) {
            printf("%d    ", sum[i][j]);
            if (j == c - 1) {
                printf("\n\n");
            }
        }

    return 0;
}
```

Enter the number of rows (between 1 and 100): 3

Enter the number of columns (between 1 and 100): 3

Enter elements of 1st matrix:

Enter element a11: 12

Enter element a12: 45

Enter element a13: 56

Enter element a21: 78

Enter element a22: 12

Enter element a23: 30

Enter element a31: 45
Enter element a32: 63
Enter element a33: 10

Enter elements of 2nd matrix:

Enter element b11: 12
Enter element b12: 45
Enter element b13: 56
Enter element b21: 23
Enter element b22: 89
Enter element b23: 78
Enter element b31: 45
Enter element b32: 12
Enter element b33: 32

Sum of two matrices:

24 90 112

101 101 108

90 75 42

The product of all elements are 720

13. SUM and AVERAGE of two integer Numbers using User Defined Functions.

```
#include<stdio.h>
void sum(int num1,int num2){
    printf("The sum is %d\n",num1+num2);
}
void average(int num1,int num2){
    printf("The average is %.2f\n",(float)(num1+num2)/2);
}
int main(){
    int num1,num2;
    printf("Enter the two numbers: ");
    scanf("%d%d",&num1,&num2);
    sum(num1,num2);
    average(num1,num2);
    return 0;
}
```

Enter the two numbers: 2 4

The sum is 6

The average is 3.00

14. Read two Strings & Concatenate the Strings

```
#include<stdio.h>
#include<string.h>
int main(){
    char st1[20];
    char st2[20];
    printf("Enter the string 1: ");
    gets(st1);
    printf("Enter the string 2: ");
    gets(st2);
    strcat(st1,st2);
    printf("The concatenated string is: %s\n",st1);
    return 0;
}
```

The concatenated string is: Shivansh Kumar Jha

15. Copy one String into another

```
#include<stdio.h>
#include<string.h>
int main(){
    char st1[20];
    char st2[20];
    printf("Enter the string you want to copy: ");
    gets(st1);
    strcpy(st2,st1);
    printf("The string st2 is: %s\n",st2);
    return 0;
}
```

s2 string is: Shivansh

THANK YOU!