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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!**