ASSIGNMENT 17

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B22

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Q1. Write a program to swap 2 numbers using point.

Code:

#include <stdio.h>

void swapByRef(int \*x, int \*y)

{

    int t;

    t = \*x;

    \*x = \*y;

    \*y = t;

}

int main()

{

    int a, b;

    printf("Enter numbers: ");

    scanf("%d%d", &a, &b);

    swapByRef(&a, &b);

    printf("Swapped numbers: %d %d", a, b);

    return 0;

}

Output:



Q2. Write a program to determine the bigger array.

Code:

//find sum of first n elements of two arrays, return 0(equal sum), 1(1st array sum is larger),2(2nd array sum is larger)

#include <stdio.h>

int large\_sum(int \*a, int \*b, int n)

{

    int i, s1=0, s2=0;

    for(i=0;i<n;i++)

    {

        s1+=a[i];

        s2+=b[i];

    }

    if(s1==s2)

        return 0;

    else if(s1>s2)

        return 1;

    else

        return 2;

}

int main()

{

    int x[20] = {0,2,4,6,8,10}, y[15] = {1,3,5,7,9}, g, i;

    printf("Elements of array x: ");

    for(i=0;i<5;i++)

        printf("%d ",x[i]);

    printf("\nElements of array y: ");

    for(i=0;i<5;i++)

        printf("%d ",y[i]);

    g=large\_sum(x,y,5);

    printf("\n");

    if(!g)

        printf("Both sums are equal.");

    else if(g==1)

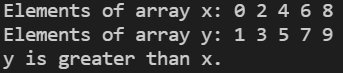
        printf("x is greater than y.");

    else

        printf("y is greater than x.");

}

Output:



Q3. Write a program to determine the number of ‘a’ in an array.

Code:

//find number of 'a' present in all names using arrays of a pointer variable

#include <stdio.h>

int main()

{

    char a[]="Yudhistir", b[]="Bhim", c[]="Arjun", d[]="Nakul", e[]="Sahadev", f[]="Karn";

    char \*p[5];

    int i,j,count=0;

p[0]=a; p[1]=b; p[2]=c; p[3]=d; p[4]=e; p[5]=f;

    for(i=0;i<6;i++)

        for(j=0;p[i][j];j++)

            count+=p[i][j]=='a';

    printf("\nNumber of 'a': %d",count);

}

Output

:

Q4. Write a program to add elements row-wise in an array.

Code:

//WAP to add elements present is every row of a matrix and store it an array using pointer

#include <stdio.h>

int main()

{

    int i, j, a[4][5]={{1,2,3,4,5},{2,3,4,5,6},{3,4,5,6,7},{4,5,6,7,8}}, b[4]={0,0,0,0};

    int (\*pa)[5], \*pb;

    pa=a;

pb=b;

    for(i=0;i<4;i++)

        for(j=0;j<5;j++)

            b[i] = b[i] + a[i][j];

    for(i=0;i<4;i++)

    {

        printf("Sum of elements in row %d: ", i+1);

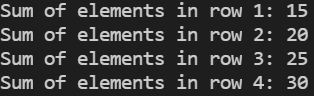
        printf("%d\n",b[i]);

    }

    return 0;

}

Output:



Q5. Write a program to display the factorial of a number using pointers.

Code:

//WAP to find factorial of an integer using pointer and function

#include <stdio.h>

void fact(int n, int \*factorial)

{

    \*factorial = 1;

    for(int i=1;i<=n;i++)

        \*factorial = \*factorial\*i;

}

int main()

{

    int n, factorial;

    printf("Enter number: ");

    scanf("%d", &n);

    fact(n,&factorial);

    printf("Factorial of %d: %d", n, factorial);

    return 0;

}

Output:



Q6. Write a program to determine if the given word is a palindrome or not.

Code:

//WAP to check if the given number is a palindrome or not using pointer

#include <stdio.h>

void palindrome(char \*word)

{

    char \*ptr, \*rev;

ptr = word;

    while (\*ptr != '\0')

    {

        ++ptr;

    }

    --ptr;

    for(rev = word; ptr>=rev;)

    {

        if(\*ptr == \*rev)

        {

            --ptr;

            rev++;

        }

        else

            break;

}

    if (rev > ptr)

        printf("String is Palindrome");

    else

        printf("String is not a Palindrome");

}

int main()

{

    char a[100];

    printf("Enter word: ");

    scanf("%s",&a);

    palindrome(a);

    return 0;

}

Output:

