**C program to implement the CRC or polynomial code check sum.**

CRC is error Detecting code. In which for every data there is a code and both of them are send at a time and at the receiver side again a code is generated by the data and if previous generated code and earlier generated code are same then data is error free

=======================================================================================

**Keep in mind**

Circular Queue and Circular Buffer are same so remember the implementation of them using Array and Link list

Hamming code, Bit field

ARM instructions-

EQ,BX,BLX,ADD,ADC,SUB,SBC,TST,TEQ,MOV,LSR,LSL,MUL, SMULL,SDIV,UDIV

BFC R4 #8, #12---clear bit from 8 to 19 of R4 to 0

BFI R9, R2, #8, #12---replace bit 8 to 19 of R9 with bit 0 to 11 bit of the R2

If right shift then a no. Is divided by 2^n and If left shift then a no. Is multiply by 2^n and **scan (“% [^\n] s”)**

Itoa function converts an integer value (positive and negative both) to a string.

=======================================================================================

**Assembly program to swap two numbers**

LDA 2000H

MOV B, A

LDA 2200H

STA 2000H

MOV A, B

STA 2200H

HLT

=======================================================================================

**LED Blink**

#include<avr/io.h>

#include<util/delay.h>

#define F\_CPU 16000000UL

int main()

{

DDRC=0xFF;

while(1)

{

PORTC=0xFF;

\_delay\_ms(10000);

PORTC=0x00;

\_delay\_ms(10000);

}

return 0;

}

=======================================================================================

**Print a semicolon**

#include <stdio.h>

int main()

{

printf("%c ", 59);

}

=======================================================================================

**Write a program to find greatest no using macro**

#include <stdio.h>

#define LARGEST(a,b,c) (a>b?(a>c?a:c):(b>c?b:c))

void main()

{ int i=20, j=95, k=10,max;

clrscr();

max=LARGEST(i,j,k);

printf("\nLargest of %8d %8d %8d is %8d",i,j,k,max);

getch();

}

=======================================================================================

**How you will print the hello word without the semicolon**

#include<stdio.h>

void main()

{

if(printf("Hello world"))

{ }

}

or

#include<stdio.h>

void main()

{

while**(!printf("**Hello world"))

{ }

}

or

#include<stdio.h>

void main()

{

switch(printf("Hello world"))

{ }

}

=======================================================================================

**Checking endian-ness of the system**

#include<stdio.h>

void main()

{

int i = 1;

char \*ch = (char \*)&i;

if(\*ch == 0)

printf("Machine is Big Endian\n");

else

printf("Machine is Little Endian\n");

}

=======================================================================================

**C program to print ASCII values from 0-255**

#include<stdio.h>

int main()

{

int i,a=0;

for(i=0;i<=255;i++)

{

printf("%d:%c\n",a,i);

a++;

}

}

=======================================================================================

**Convert Decimal to Binary in C**

#include<stdio.h>

int main()

{

int d,n,i,j,a[50];

printf("Enter a number:");

scanf("%d",&n);

if(n==0)

printf("\nThe binary conversion of 0 is 0");

else

{

printf("\nThe binary conversion of %d is 1",n);

for(i=1;n!=1;++i)

{

d=n%2;

a[i]=d;

n=n/2;

}

for(j=i-1;j>0;--j)

printf("%d",a[j]);

}

return 0;

}

=======================================================================================

**C program to find even or odd using bitwise operator**

#include<stdio.h>

int main()

{

int n;

printf("enter the number\n");

scanf("%d",&n);

if(n&0x01)

printf("odd number\n");

else

printf("even number\n");

}

**C program to find even or odd**

#include<stdio.h>

int main()

{

int n,z=0x01;

printf("enter the number\n");

scanf("%d",&n);

(n&z) && printf("odd")||printf("even");

}

**C program to round of floating point number in one line**

# include<stdio.h>

int main() {

float n;

int round;

printf("Enter a floating point number\n");

scanf("%f", &n);

round = (int)(n < 0 ? n - 0.5 : n + 0.5);

printf("Rounded integer : %d", round);

return 0;

}

**C program to print numbers from 1 to N using recursion.**

#include <stdio.h>

void printNumber(int N);

int main(){

    int N;

    printf("Enter a number\n");

    scanf("%d", &N);

    printNumber(N);

    return 0;

}

void printNumber(int N){

    if(N >= 1){

        printNumber(N-1);

        printf("%d ", N);

    }

}

**C program to find execution time of a program**

#include <stdio.h>

#include <time.h>

int main()

{

    clock\_t start, end;

    /\* Store start time here \*/

    start = clock();

    /\* put the main body of your program here \*/

    printf("Enter any character\n");

    getchar();

    /\* program logic ends here \*/

    end = clock();

    /\* Get the time taken by program to execute in seconds \*/

    double duration = ((double)end - start)/CLOCKS\_PER\_SEC;

    printf("Time taken to execute in seconds : %f", duration);

    return 0;

}

**C program to print natural numbers without using semicolon and using recursion**

#include <stdio.h>

int printNumber(int N)

{

    if(N <= 10 && printf("%d ", N) && printNumber(N + 1)){

    }

}

int main()

{

    if(printNumber(1)){

    }

}

**C program to check whether a number is power of 2 using bitwise operator**

#include<stdio.h>

#include<math.h>

int main()

{

    int num;

    printf("Enter an integer\n");

    scanf("%d", &num);

    if(num && ((num & (num-1)) == 0))

{

        printf("%d is power of 2", num);

    }

else

{

        printf("%d is not a power of 2", num);

    }

   return 0;

}

**C program to check whether a number is in given range.**

#include<stdio.h>

int main() {

    int num, min, max;

    printf("Enter an integer\n");

    scanf("%d", &num);

    printf("Enter the minimum and maximum range\n");

    scanf("%d %d", &min, &max);

    if((num-min)\*(num-max) <= 0)

{

        printf("%d is in range of [%d, %d]", num, min, max);

    }

else

{

     printf("%d is not in range of [%d, %d]", num, min, max);

    }

   return 0;

}

=======================================================================================

**C program to swap two nibbles**

#include<stdio.h>

int main()

{

int n,temp1,temp2,result;

printf("enter the number\n");

scanf("%x",&n);

temp1=n&0x0f;

temp1=temp1<<4;

temp2=n&0xf0;

temp2=temp2>>4;

result=temp1|temp2;

printf("%x",result);

}

**Swapping of the 2 variable in a signal line**

#include<stdio.h>

main()

{

int a=5,b=6;

b=a+b-(a=b);

printf("%d%d",a,b);

}

**swap two numbers without using a temporary variable**

#include <stdio.h>

int main()

{

int x = 10, y = 5;

x = x + y; // x now becomes 15 (we can use **\* or (^ using Bitwise operator)** in place of +)

y = x - y; // y becomes 10 (we can use **/ or (^ using Bitwise operator)** in place of -)

x = x - y; // x becomes 5 (we can use **/ or (^ using Bitwise operator)** in place of -)

printf("After Swapping: x = %d, y = %d", x, y);

return 0;

}

**Swap two numbers with using a temporary variable**

#include <stdio.h>

int main()

{

int x, y, temp;

printf("Enter the value of x and y\n");

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

printf("Before Swapping\nx = %d\ny = %d\n",x,y);

temp = x;

x = y;

y = temp;

printf("After Swapping\nx = %d\ny = %d\n",x,y);

return 0;

}

**Swapping of 2 no. Using Pointer**

void swap(int \*num1, int \*num2)

{

int temp;

temp = \*num1;

\*num1 = \*num2;

\*num2 = temp;

}

int main()

{

int num1, num2;

printf("\nEnter the first number : ");

scanf("%d", &num1);

printf("\nEnter the Second number : ");

scanf("%d", &num2);

swap(&num1, &num2);

printf("\nFirst number : %d", num1);

printf("\nSecond number : %d", num2);

return (0);

}

=======================================================================================

**C program to print Floyd's triangle**

#include <stdio.h>

int main()

{

int n, i, c, a = 1;

printf("Enter the number of rows of Floyd's triangle to print\n");

scanf("%d", &n);

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

{

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

{

printf("%d ",a);

a++;

}

printf("\n");

}

return 0;

}

=======================================================================================

**C Program to Find Factorial of a Number**

#include <stdio.h>

int main()

{

int n, i;

unsigned long long factorial = 1;

printf("Enter an integer: ");

scanf("%d",&n);

// show error if the user enters a negative integer

if (n < 0)

printf("Error! Factorial of a negative number doesn't exist.");

else

{

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

{

factorial \*= i; // factorial = factorial\*i;

}

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

}

return 0;

}

**C Program to Find the Factorial of a Number Using Recursion**

#include<stdio.h>

int fac(int);

main()

{

int i;

printf("enter the no.");

scanf("%d",&i);

printf("%d",fac(i));

}

int fac(int a)

{

if(a>=1)

return a\*fac(a-1);

else

return 1;

}

=======================================================================================

**C program to find product of two numbers without using \* operator?**

#include<stdio.h>

int main()

{

int result=0,i;

int a,b;

printf("enter the two nums\n");

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

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

result=result+a;

printf("product:%d",result);

}

=======================================================================================

**C Program to Calculate the Sum of Natural Numbers**

#include <stdio.h>

int main()

{

int n, i, sum = 0;

printf("Enter a positive integer: ");

scanf("%d",&n);

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

{

sum += i; // sum = sum+i;

}

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

return 0;

}

**C Program to Find the Sum of Natural Numbers using Recursion**

#include<stdio.h>

int sum(int);

main()

{

int i;

printf("enter the no.");

scanf("%d",&i);

printf("%d",sum(i));

}

int sum(int a)

{

if(a!=0)

return a+sum(a-1);

else

return 0;

}

=======================================================================================

**Program display N terms of harmonic series and find Sum also.**

/\* 1 + 1/2 + 1/3 + 1/4 + 1/5 ... 1/N Terms \*/

#include<stdio.h>

#include<conio.h>

void main()

{

int i,n;

float sum=0.0;

clrscr();

printf("Enter Value of N (terms) : ");

scanf("%d",&n);

printf("\n\n");

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

{

printf("1/%d + ",i);

sum+=1/(float)i;

}

printf("\n\nSum of Series upto %d terms = %f \n",n,sum);

getch();

}

=======================================================================================

**Sum of square series**

/\*"1^2+2^2+3^2+…..+n^2"\*/

#include<stdio.h>

#include<conio.h>

void main()

{

int i,n,sum=0;

clrscr(); //to clear the screen

printf("1^2+2^2+3^2+…..+n^2");

printf("nnEnter value of n:");

scanf("%d",&n);

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

sum+=i\*i;

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

getch(); //to stop the screen

}

we can use all the formula directly like n(n+1)(2n+1)/6

=======================================================================================

**Write a C program to find HCF and LCM of two integers using recursion**

#include <stdio.h>

int h(int, int);

int main()

{

int x, y, hcf, lcm;

printf("Enter two integers\n");

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

hcf = h(x, y);

lcm = (x\*y)/hcf;

printf("Highest common factor of %d and %d = %d\n", x, y, hcf);

printf("Least common multiple of %d and %d = %d\n", x, y, lcm);

return 0;

}

int h(int a, int b)

{

if (b == 0)

{

return a;

}

else

{

return h(b,a%b);

}

}

=======================================================================================

**C program for prime number or not**

#include<stdio.h>

main()

{

int n, c = 2;

printf("Enter a number to check if it is prime\n");

scanf("%d",&n);

for ( c = 2 ; c <= n - 1 ; c++ )

{

if ( n%c == 0 )

{

printf("%d is not prime.\n", n);

break;

}

}

if ( c == n )

printf("%d is prime.\n", n);

return 0;

}

**C program for prime number using function**

#include<stdio.h>

int check\_prime(int);

main()

{

int n, result;

printf("Enter an integer to check whether it is prime or not.\n");

scanf("%d",&n);

result = check\_prime(n);

if ( result == 1 )

printf("%d is prime.\n", n);

else

printf("%d is not prime.\n", n);

return 0;

}

int check\_prime(int a)

{

int c;

for ( c = 2 ; c <= a - 1 ; c++ )

{

if ( a%c == 0 )

return 0;

}

if ( c == a )

return 1;

}

**Prime number program in c using recursion**

#include<stdio.h>

int isPrime(int,int);

int main()

{

int num,prime;

printf("Enter a positive number: ");

scanf("%d",&num);

prime = isPrime(num,num/2);

if(prime==1)

printf("%d is a prime number",num);

else

printf("%d is not a prime number",num);

return 0;

}

int isPrime(int num,int i)

{

if(i==1)

{

return 1;

}

Else

{

if(num%i==0)

return 0;

else

isPrime(num,i-1);

}

}

=======================================================================================

**Count no. of digits of number and find the sum and product of them in c**

#include <stdio.h>

int main()

{

int n, t,c=0, sum = 0, product=1, remainder;

printf("Enter an integer\n");

scanf("%d", &n);

t = n;

while (t != 0)

{

remainder = t % 10;

sum = sum + remainder;

product=product\*remainder;

t = t / 10;

c++;

}

printf("digits:%d",c);

printf("Sum of digits of %d = %d\n", n, sum);

printf("the product of given number: %d",product);

return 0;

}

**C program to find sum of digits of a number using for loop**

# include<stdio.h>

int main()

{

    int n, sum;

    printf("Enter a number\n");

    scanf("%d", &n);

   for(sum=0; n > 0; sum += n%10, n/=10);

  printf("Sum of digits : %d", sum);

  return 0;

}

**Add digits using recursion**

#include <stdio.h>

int add\_digits(int);

int main()

{

int n, result;

scanf("%d", &n);

result = add\_digits(n);

printf("%d\n", result);

return 0;

}

int add\_digits(int n)

{

**static int sum = 0;**

if (n == 0)

{

return 0;

}

sum = n%10 + add\_digits(n/10); /\* return n == 0 ? 0 : n%10 + add\_digits (n/10) ; \*/

return sum;

}

=======================================================================================

**Program for Perfect Number in C**

/\*1 + 2 + 4 + 7 + 14 = 28.\*/

#include<stdio.h>

int main()

{

int num,j,s=0;

printf("Enter a number:");

scanf("%d",&num);

for(j=1;j<num;++j)

{

if(num%j==0)

{

s=s+j;

}}

if(s==num)

{

printf("Perfect Number");

}

else

{

printf("Not perfect number");

}

return 0;

}

=======================================================================================

**Program for Strong Number in C**

/\*145=1!+4!+5!\*/

#include<stdio.h>

int fact(int n)

{

int i,fac=1;

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

{

fac\*=i;

}

return fac;

}

int main()

{

int n,t,sum,m;

printf("Enter a number:");

scanf("%d",&n);

m=n;

while(m!=0)

{

t=m%10;

sum+=fact(t);

m=m/10;

}

if(sum==n)

{

printf("Strong Number");

}

else

{

printf("Not Strong Number");

}

return 0;

}

=======================================================================================

**C Program to Check Armstrong Number**

/\*371=3^3+7^3+1^3\*/

#include<stdio.h>

int main(){

int num,r,sum=0,temp;

printf("Enter a number: ");

scanf("%d",&num);

temp=num;

while(num!=0){

r=num%10;

num=num/10;

sum=sum+(r\*r\*r);

}

if(sum==temp)

printf("%d is an Armstrong number",temp);

else

printf("%d is not an Armstrong number",temp);

return 0;

}

=======================================================================================

**Palindrome number and find the reverse no in C**

/\*121,131\*/

#include<stdio.h>

int main(){

int num,r,sum=0,temp;

printf("Enter a number: ");

scanf("%d",&num);

temp=num;

while(num)

{

r=num%10;

num=num/10;

sum=sum\*10+r;

}

if(temp==sum)

printf("%d is a palindrome",temp);

else

printf("%d is not a palindrome",temp);

return 0;

}

**Within a range**

#include<stdio.h>

int main()

{

int num,r,sum,temp;

int min,max;

printf("Enter the minimum range: ");

scanf("%d",&min);

printf("Enter the maximum range: ");

scanf("%d",&max);

printf("Palindrome numbers in given range are: ");

for(num=min;num<=max;num++)

{

temp=num;

sum=0;

while(temp)

{

r=temp%10;

temp=temp/10;

sum=sum\*10+r;

}

if(num==sum)

printf("%d ",num);

}

return 0;

}

**C program to check if a number is palindrome using recursion**

#include<stdio.h>

int checkPalindrome(int);

int main(){

int num,sum;

printf("Enter a number: ");

scanf("%d",&num);

sum = checkPalindrome(num);

if(num==sum)

printf("%d is a palindrome",num);

else

printf("%d is not a palindrome",num);

return 0;

}

int checkPalindrome(int num){

static int sum=0,r;

if(num!=0)

{

r=num%10;

sum=sum\*10+r;

checkPalindrome(num/10);

}

return sum;

}

=======================================================================================

**Write a program to find if the given string is a palindrome or not.**

#include <stdio.h>

#include <string.h>

int main(){

char string1[20];

int i, length;

int flag = 0;

printf("Enter a string:");

scanf("%s", string1);

length = strlen(string1);

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

{

if(string1[i] != string1[length-i-1])

{

flag = 1;

break;

}

}

if (flag)

{

printf("%s is not a palindrome", string1);

}

else

{

printf("%s is a palindrome", string1);

}

return 0;

**C program to find string palindrome or not**

#include<string.h>

#include<stdio.h>

int main(){

char str[20],rev[20];

int i,j;

printf("\nEnter a string:");

gets(str);

for(i=strlen(str)-1,j=0;i>=0;i--,j++)

rev[j]=str[i];

rev[j]='\0';

printf("reverse string:%s\n",rev);

if(strcmp(rev,str)==0)

printf("The string is a palindrome\n");

else

printf("The string is a not palindrome");

}

**USING POINTERS**

#include<stdio.h>

int main()

{

char str[30];

char \*p,\*t;

printf("Enter any string : ");

scanf("%s",str);

for(p=str;\*p!='\0';p++);

for(t=str,p--;p>=t; )

{

if(\*p==\*t)

{

p--;

t++;

}

else

break;

}

if(t>p)

printf("\nString is palindrome\n");

else

printf("\nString is Not palindrome\n");

return 0;

}

=======================================================================================

**C Program to Display Fibonacci Sequence**

#include <stdio.h>

int main()

{

int i, n, t1 = 0, t2 = 1, nextTerm = 0;

printf("Enter the number of terms: ");

scanf("%d",&n);

// displays the first two terms which is always 0 and 1

printf("Fibonacci Series: %d, %d, ", t1, t2);

// i = 3 because the first two terms are already dislpayed

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

{

nextTerm = t1 + t2;

t1 = t2;

t2 = nextTerm;

printf("%d, ",nextTerm);

}

return 0;

}

**Program to Generate Fibonacci Sequence Up to a Certain Number**

#include <stdio.h>

int main()

{

int t1=0, t2=1, nextTerm = 0, n;

printf("Enter a positive integer: ");

scanf("%d",&n);

// displays the first two terms which is always 0 and 1

printf("Fibonacci Series: %d, %d, ", t1, t2);

nextTerm = t1+t2;

while(nextTerm < n)

{

printf("%d, ",nextTerm);

t1 = t2;

t2 = nextTerm;

nextTerm = t1+t2;

}

return 0;

}

=======================================================================================

**Write a C program to check whether two strings are anagrams or not**

#include<stdio.h>

#include<string.h>

int anagram(char [], char []);

int main()

{

char a[100], b[100];

int m;

printf("Enter first string\n");

scanf("%s",a);

printf("Enter second string\n");

scanf(" %s",b);

m = anagram(a, b);

if (m == 5)

printf("\"%s\" and \"%s\" are anagrams.\n", a, b);

else

printf("\"%s\" and \"%s\" are not anagrams.\n", a, b);

return 0;

}

int anagram(char a[], char b[])

{

int first[26] = {0}, second[26] = {0}, c = 0;

while (a[c] != '\0')

{

first[a[c]-'a']++;

c++;

}

c = 0;

while (b[c] != '\0')

{

second[b[c]-'a']++;

c++;

}

for (c = 0; c < 26; c++)

{

if (first[c] != second[c])

return 0;

}

return 5;

}

=======================================================================================

**Write a program containing a loop that counts from 1 to 1000. It should print the value of the variable after every 100 iterations.**

#include<stdio.h>

void main()

{

int i,n,a;

for(i=1;i<=1000;i++)

{

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

{

n=100\*a;

if(n==i)

{

printf("%d\t",n);

}

}

}

}

=======================================================================================

**C program to sort numbers in ascending order**

#include<stdio.h>

int main()

{

int a[5],i,j,t;

printf("Enter 5 nos.\n\n");

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

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

for (i=0;i<5-1;i++)

{

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

{

if(a[i]>a[j])

{

t=a[i];

a[i]=a[j];

a[j]=t;

}

}

}

printf("Ascending Order is:");

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

printf("\n%d",a[j]);

}

=======================================================================================

**C Program to Find Largest Element of an Array**

#include <stdio.h>

int main()

{

int i, n;

int arr[100];

printf("Enter total number of elements: ");

scanf("%d", &n);

printf("\n");

// Stores number entered by the user

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

{

printf("Enter Number %d: ", i+1);

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

}

// Loop to store largest number to arr[0]

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

{

// Change < to > if you want to find the smallest element

if(arr[0] < arr[i])

arr[0] = arr[i];

}

printf("Largest element = %d", arr[0]);

return 0;

}

=======================================================================================

**C program to find second largest number in an array**

#include <stdio.h>

#include <limits.h> //For INT\_MIN

#define MAX\_SIZE 1000

int main()

{

int arr[MAX\_SIZE], N, i;

int max1, max2;

printf("Enter size of the array (1-1000): ");

scanf("%d", &N);

printf("Enter elements in the array: ");

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

{

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

}

max1 = max2 = INT\_MIN;

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

{

if(arr[i] > max1)

{

max2 = max1;

max1 = arr[i];

}

else if(arr[i] > max2)

{

max2 = arr[i];

}

}

printf("First largest = %d\n Second largest = %d", max1,max2);

return 0;

}

=======================================================================================

**Write a c-program to find the biggest & smallest number of the given matrix.**

#include<stdio.h>

main()

{

int a[10][10],i,j,m,n,big,small;

printf("enter the values of m,n");

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

printf("enter the elemnts of matrix a");

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

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

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

big=a[0][0];

small=a[0][0];

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

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

if(a[i][j]>big)

big=a[i][j];

if(a[i][j]<small)

small=a[i][j];

printf("biggest element =%d",big);

printf("smallest element =%d",small);

}

=======================================================================================

**C Program to Find Sum of Elements Above and Below Main Diagonal of Matrix**

#include<stdio.h>

int main()

{

int i,j,m,n,d1=0,d2=0,a[5][5];

printf("How many rows and columns:");

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

printf("Enter matrix elements:\n");

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

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

{

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

if(j>i)

d1+=a[i][j];

else

if(i>j)

d2+=a[i][j];

}

printf(\n"Sum of elements above the diagonal=%d\n",d1);

printf("Sum of elements below the diagonal=%d",d2);

return 0;

}

=======================================================================================

**Write a program to find the number of occurrences of each of the vowels in the input stream (use switch case).**

#include<stdio.h>

#include<string.h>

void main()

{

char string[100];

int i,c=0,d=0,f=0,g=0,h=0,len;

printf("input the string");

scanf("%s",string);

len=strlen(string);

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

{

switch(string[i])

{

case 'a':

case 'A': c++;

break;

case 'e':

case 'E': d++;

break;

case 'i':

case 'I': f++;

break;

case 'o':

case 'O': g++;

break;

case 'u':

case 'U': h++;

break;

}

}

printf("A/a occurs %d times:\n",c);

printf("E/e occurs %d times:\n",d);

printf("I/i occurs %d times:\n",f);

printf("O/o occurs %d times:\n",g);

printf("U/u occurs %d times:\n",h);

return 0;

}

=======================================================================================

**Write a C program to reverse elements of an array by swapping (without using additional memory)**

**Remember the reverse from the link list program of array**

#include <stdio.h>

int main()

{

int n, c, d, a[100], b[100];

printf("Enter the number of elements in array\n");

scanf("%d", &n);

printf("Enter the array elements\n");

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

{

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

}

for (c = n - 1, d = 0; c >= 0; c--, d++)

{

b[d] = a[c];

}

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

{

a[c] = b[c];

}

printf("Reverse array is\n");

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

{

printf("%d\n", a[c]);

}

return 0;

}

=======================================================================================

**Write a program to convert the case of a string. Lower to upper and vice versa**

#include<stdio.h>

void main()

{

int c=0;

char s[1000];

printf("input the string\n");

scanf("%[^\n]",s);

while(s[c]!='\0')

{

if((s[c]>='A')&&(s[c]<='Z'))

s[c]=s[c]+32;

else if(s[c]>='a' && s[c]<='z')

s[c]=s[c]-32;

c++;

}

printf(" %s\n",s);

}

=======================================================================================

**Write a program to get the word count in a string**

#include<stdio.h>

#include<string.h>

void main()

{

char s[200];

int count=1,i;

printf("enter the string\n");

scanf("%[^\n]s",s);

for(i=0;s[i]!='\0';i++) // use while(s[i]!='\0')

{

if(s[i]==' ')

count++;

}

printf("number of word in given string=%d\n",count);

}

=======================================================================================

**C Program to Find Length of the String using Pointer**

#include<conio.h>

int string\_ln(char\*);

void main() {

char str[20];

int length;

clrscr();

printf("\nEnter any string : ");

gets(str);

length = string\_ln(str);

printf("The length of the given string %s is : %d", str, length);

getch();

}

int string\_ln(char\*p)

{

int count = 0;

while (\*p != '\0') {

count++;

p++;

}

return count;

}

===============================================================================================

**C program to copy string without using strcpy**

#include<stdio.h>

void copy(char\* ,char\* );

void main(void)

{

char src[25],dest[25];

printf("\nEnter String to be copied to another String:");

gets(src);

copy(dest,src); //1

printf("\nCopied String is %s %s",dest,src);

}

void copy(char \*s1,char \*s2)

{

while(\*s2!='\0') //2

{

\*s1=\*s2; //3

s1++;

s2++; //4

}

s1='\0';

}

=======================================================================================

**Concatenation of two strings using pointer in c programming language**

#include<stdio.h>

int main()

{

char str1[25],str2[25];

int i=0,j=0;

printf("\nEnter First String:");

gets(str1);

printf("\nEnter Second String:");

gets(str2);

while(str1[i]!='\0')

i++;

while(str2[j]!='\0')

{

str1[i]=str2[j];

j++;

i++;

}

str1[i]='\0';

printf("\nConcatenated String is %s",str1);

return 0;

}

=======================================================================================

**C program to compare two strings without using strcmp**

#include<stdio.h>

int compare\_string(char\*, char\*);

int main()

{

char first[1000], second[1000], result;

printf("Input first string\n");

gets(first);

printf("Input second string\n");

gets(second);

result = compare\_string(first, second);

if (result == 0)

printf("Both strings are same.\n");

else

printf("Entered strings are not equal.\n");

return 0;

}

int compare\_string(char \*first, char \*second)

{

while (\*first == \*second)

{

if (\*first == '\0' || \*second == '\0')

break;

first++;

second++;

}

if (\*first == '\0' && \*second == '\0')

return 0;

else

return -1;

}

=======================================================================================

**Write a program to reverse a string using pointer.**

#include <stdio.h>

int main()

{

char str[50];

char rev[50];

char \*sptr = str;

char \*rptr = rev;

int i=-1;

printf("Enter any string : ");

scanf("%s",str);

while(\*sptr)

{

sptr++;

i++;

}

while(i>=0)

{

sptr--;

\*rptr = \*sptr;

rptr++;

--i;

}

\*rptr='\0';

printf("Reverse of string is : %s\n",rev);

return 0;

}

===============================================================================================

**Program to remove the Space**

#include <stdio.h>

int main()

{

char text[1000], blank[1000];

int c = 0, d = 0;

printf("Enter some text\n");

gets(text);

while (text[c] != '\0') {

if (text[c] == ' ') {

int temp = c + 1;

if (text[temp] != '\0') {

while (text[temp] == ' ' && text[temp] != '\0') {

if (text[temp] == ' ') {

c++;

}

temp++;

}

}

}

blank[d] = text[c];

c++;

d++;

}

blank[d] = '\0';

printf("Text after removing blanks\n%s\n", blank);

return 0;

}

=======================================================================================

**Selection Sort**

#include<stdio.h>

#define MAX 10

int main()

{

int a[MAX];

int i;

printf("enter the date into the array");

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

{

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

}

printf("array elements are\n");

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

{

printf("%d\t",a[i]);

}

printf("\n\n\");

printf("the sorted array is\n");

for(i=0;i<MAX-1;i++)

{

int imin=i;

int j,tmp;

for(j=i+1;j<MAX;j++)

{

if(a[j]<a[imin])

{

imin=j;

}

}

tmp=a[i];

a[i]=a[imin];

a[imin]=tmp;

}

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

{

printf("%d\t",a[i]);

}

}

=======================================================================================

**Bubble Sort (sort string in alphabetical order)**

#include<stdio.h>

#define MAX 10

int main()

{

int a[MAX];

int i;

printf("enter the date into the array");

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

{

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

}

printf("array elements are\n");

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

{

printf("%d\t",a[i]);

}

printf("\n\n");

printf("the sorted array is\n");

for(i=0;i<MAX-1;i++)

{

int j,tmp;

for(j=0;j<MAX-i-1;j++)

{

if(a[j]>a[j+1])

{

tmp=a[j];

a[j]=a[j+1];

a[j+1]=tmp;

}}}

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

{

printf("%d\t",a[i]);

}

}

=======================================================================================

**Inseration sort**

#include<stdio.h>

#define MAX 10

int main()

{

int a[MAX];

int i;

printf("enter the date into the array");

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

{

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

}

printf("array elements are\n");

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

{

printf("%d\t",a[i]);

}

printf("\n\n");

printf("the sorted array is\n");

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

{

int value=a[i];

int hole=i;

while(hole>0&&a[hole-1]>value)

{ /\*a[0]>a[1]\*/

a[hole]=a[hole-1];

/\*a[1]=a[0]\*/

hole=hole-1;

/\*1=0\*/

}

a[hole]=value;

/\*a[0]=a[1]\*/

}

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

{

printf("%d\t",a[i]);

}

}