Bootcamp

Day1

1.Write a program to left rotate array

input:10 20 30 40 50

rotate times:2

output:30 40 50 10 20

#include <stdio.h>

int main() {

int a[5] = {10,20,30,40,50};

int b[5] = {};

int s = sizeof a/sizeof \*a;

int n=0;

scanf("%d",&n);

int j =0;

while (j<n){

if(j>0){

for(int i=0;i<s;i++){

a[i] = b[i];

}

}

for(int i=0;i<s-1;i++){

b[i] = a[i+1];

}

b[s-1] = a[0];

j++;

}

for(int i=0;i<s;i++){

printf("%d \n",b[i]);

}

return 0;

}

2.write a program to right rotate array

input:10 20 30 40 50

rotatetimes:2

output:40 50 10 20 30

#include <stdio.h>

int main() {

int a[5] = {10,20,30,40,50};

int b[5] = {};

int s = sizeof a/sizeof \*a;

int n=0;

scanf("%d",&n);

int j =0;

while (j<n){

if(j>0){

for(int i=0;i<s;i++){

a[i] = b[i];

}

}

for(int i=1;i<s;i++){

b[i] = a[i-1];

}

b[0] = a[s-1];

j++;

}

for(int i=0;i<s;i++){

printf("%d \n",b[i]);

}

return 0;

}

3.find the elements in array are distinct

input:10 20 30 40 50

output:elements are distinct

input:10 20 30 20 40

output:elements are not distinct

#include <stdio.h>

int main() {

int a[5] = {10,20,30,70,50};

int x =0;

int s = sizeof a/sizeof \*a;

for(int i=0;i<s;i++){

for(int j=0;j<s;j++){

if (i!=j){

if (a[i]==a[j]){

x++;

}

}

}

}

if(x>0){

printf("not distinct \n");

}

else{

printf("distinct \n");

}

return 0;

}

4.find the second largest element in a array

input:10 20 30 40 50

output:40

5.write a program to sort the elements in a array

i/p:4 5 1 2 7

o/p:1 2 4 5 7

#include <stdio.h>

int main() {

int a[6] = {5,4,6,7,2,9};

int i,j;

int s = sizeof a/ sizeof \*a;

int x;

int b[6] = {};

for(i=0;i<s;i++){

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

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

x = a[i];

a[i] = a[j];

a[j] = x;

}

}

}

printf("The ascensding order array is\n");

for(i=0;i<s;i++){

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

}

printf("\nSecond Largest number is = %d",a[s-2]);

return 0;

}

6.Enter N where N>0 and N elements 2 times.find the product such as 1st element\*N+1,2nd element\*N+2 so on

input:

3

1

2

3

5

5

3

output:[5,10,9]

#include <stdio.h>

int main() {

int n=0;

scanf("%d",&n);

int a[10] ={};

for(int i=0;i<(n\*2);i++){

printf("\nEnter %d element",i+1);

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

}

int b[10]={};

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

b[i]=(a[i]\*a[i+n]);

}

printf("the reqired is\n");

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

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

}

return 0;

}

7.Find the maximum and minimum in a array

i/p:10 20 30 40 50

o/p:max=50

min=10

#include <stdio.h>

int main() {

int a[5] = {10,20,30,40,50};

int i,j;

int s = sizeof a/ sizeof \*a;

int x;

int b[6] = {};

for(i=0;i<s;i++){

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

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

x = a[i];

a[i] = a[j];

a[j] = x;

}

}

}

printf("\nThe maximum number in the array is = %d",a[s-1]);

printf("\nThe minimum number in the array is = %d",a[0]);

return 0;

}

1)check the string is palindrome or not

input:aba

output:palindrome

input:abc

output:not a palindrome

#include <stdio.h>

int main() {

char a[50];

int n;

scanf("%s",a);

char b[50];

int s = strlen(a);

for(int i=0;i<s;i++){

b[i]=a[s-i-1];

}

for(int i =0;i<s;i++){

if(a[i] != b[i]){

n = n+1;

}

}

if(n==0){

printf("palindrome\n");

}

else{

printf("not a palindrome\n");

}

return 0;

}

2.find the length of string without using a builtin function

#include <stdio.h>

int main() {

char a[50],b[50];

int n;

printf("Enter 1st string\t");

scanf("%s",a);

printf("Enter 2nd string\t");

scanf("%s",b);

int x;

if(strlen(a)>strlen(b)){

x = strlen(a);

}

else{

x=strlen(b);

}

for(int i=0;i<x;i++){

if(a[i] != b[i]){

n++;

}

}

printf("%d",n);

return 0;

}

4.sort the names in order

input:bca

abc

dba

output:abc bca dba

#include <stdio.h>

int main() {

char a[50],b[50],c[50];

int n;

printf("Enter 1st string\t");

scanf("%s",a);

printf("Enter 2nd string\t");

scanf("%s",b);

printf("Enter 3nd string\t");

scanf("%s",c);

int x,y,z;

if(a[1]<b[1]){

if(a[1]<c[1]){

if(b[1]<c[1]){

printf("%s\n%s\n%s",a,b,c);

}

else{

printf("%s\n%s\n%s",a,c,b);

}

}

else{

printf("%s\n%s\n%s",c,a,b);

}

}

else{

if(a[1]<b[1]){

printf("%s\n%s\n%s",c,b,a);

}

else{

printf("%s\n%s\n%s",c,a,b);

}

}

return 0;

}

5.convert the string from small case to capital case without builtin function

input:abcd

output:ABCD

#include <stdio.h>

int main() {

char a[50];

printf("Enter a string\t");

scanf("%s",a);

for(int i=0;i<strlen(a);i++){

printf("%c",a[i]-32);

}

return 0;

}

6 reverse the string without builtin function using pointers

input:abcd

output:dcba

#include <stdio.h>

int main() {

char a[50];

int n;

scanf("%s",a);

char b[50];

int s = strlen(a);

for(int i=0;i<s;i++){

b[i]=a[s-i-1];

}

for(int i =0;b[i] != '\0';i++){

printf("%c",b[i]);

}

return 0;

}

5.write a program to print the following in 2D array

1

1 1

1 2 1

1 3 3 1

#include <stdio.h>

int main() {

int n=7;

printf("1");

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

printf("\n");

for(int j=0;j<=i;j++){

if(j==0 || j==i){

printf("1 ");

}

else{

printf("%d ",i);

}

}

}

return 0;

}

8.print the combination of characters

input:abc

output:abc

bac

cab

cba

acb

bca

Mini Project

#include<stdio.h>

int main() {

int reg[100],mar1[100],mar2[100],mar3[100],tot[100],per[100];

char x='Y';

int count =0;

while (x == 'Y'){

printf("1. Update Database\n2. Search Database\nPlease Enter your option :");

int s;

scanf("%d",&s);

if (s == 1){

printf("\nEnter the Reg No :");

scanf("%d",&reg[count]);

printf("\nEnter the Mark1 :");

scanf("%d",&mar1[count]);

printf("\nEnter the Mark2 :");

scanf("%d",&mar2[count]);

printf("\nEnter the Mark3 :");

scanf("%d",&mar3[count]);

tot[count] = mar1[count]+mar2[count]+mar3[count];

per[count] = tot[count]/3;

count++;

}

else if (s == 2){

printf("\nPlease enter the Reg No");

int sear;

scanf("%d",&sear);

for(int i=0;i<count;i++){

if(sear == reg[i]){

printf("\nRegNo Mark1 Mark2 Mark3 Total Percentage");

printf("\n%d %d %d %d %d %d",reg[i],mar1[i],mar2[i],mar3[i],tot[i],per[i]);

}

else{

printf("\nNo Data Found");

}

}

}

else{

printf("\nPlease enter a valid selection");

}

printf("\nDo you want to do more operation (Y/N) :");

scanf("%s",&x);

if(x != 'Y'){

printf("\nProgram Terminated");

}

}

return 0;

}