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1. Develop a program to find average of n numbers using arrays

#include<stdio.h>

int main()

{

int n, i;

float sum=0, a[10], avg;

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

scanf("%d",&n);

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

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

{

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

sum=sum+a[i];

}

avg=sum/n;

printf("Average of the entered numbers = %f", avg);

return 0;

}

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2. Develop a program to print the transpose of a matrix

#include<stdio.h>

int main()

{

int a, b, c, d, matrix[5][5], transpose[5][5];

printf("Enter the number of rows and columns of the matrix: ");

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

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

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

{

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

{

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

}

}

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

{

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

{

transpose[d][c]=matrix[c][d];

}

}

printf("Transpose of the matrix: \n");

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

{

for(d=0;d<a;d++)

{

printf("%d \t",transpose[c][d]);

}

printf("\n");

}

return 0;

}

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3. Develop a program to check if the given string is palindrome or not

#include<stdio.h>

int main()

{

char string[10];

int i, length=0;

int flag=0;

printf("Enter a string: ");

scanf("%s",string);

for(i=0;string[i] != '\0';i++)

{

length++;

}

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

{

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

{

flag=1;

break;

}

}

if(flag==0)

{

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

}

else

{

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

}

return 0;

}

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4. Implement a program to interchange the largest and smallest numbers in the given array

#include<stdio.h>

int main()

{

int a[5], max, min, maxpos, minpos, i, temp;

printf("Enter 5 numbers: ");

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

{

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

}

max=a[0];

maxpos=0;

min=a[0];

minpos=0;

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

{

if(a[i]>max)

{

max=a[i];

maxpos=i;

}

if(a[i]<min)

{

min=a[i];

minpos=i;

}

}

temp=a[maxpos];

a[maxpos]=a[minpos];

a[minpos]=temp;

printf("After interchanging the largest and smallest numbers of the array, the array is: \n");

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

{

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

}

return 0;

}

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5. Develop a program to read two dimensional array marks which stores marks of 5 students in 3 subjects and display the highest marks in each subject

#include<stdio.h>

int main()

{

int c, d;

int matrix[10][10], max=0, max1=0, max2=0;

matrix[0][0]=1;

matrix[1][0]=2;

matrix[2][0]=3;

matrix[3][0]=4;

matrix[4][0]=5;

printf("Enter marks of student 1 in PCM respectively: \n");

for(d=1;d<4;d++)

{

scanf("%d",&matrix[0][d]);

}

printf("Enter marks of student 2 in PCM respectively: \n");

for(d=1;d<4;d++)

{

scanf("%d",&matrix[1][d]);

}

printf("Enter marks of student 3 in PCM respectively: \n");

for(d=1;d<4;d++)

{

scanf("%d",&matrix[2][d]);

}

printf("Enter marks of student 4 in PCM respectively: \n");

for(d=1;d<4;d++)

{

scanf("%d",&matrix[3][d]);

}

printf("Enter marks of student 5 in PCM respectively: \n");

for(d=1;d<4;d++)

{

scanf("%d", &matrix[4][d]);

}

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

{

if(matrix[c][1]>max)

{

max=matrix[c][1];

}

if(matrix[c][2]>max1)

{

max1=matrix[c][2];

}

if(matrix[c][3]>max2)

{

max2=matrix[c][3];

}

}

printf("Highest marks in Physics: %d \n",max);

printf("Highest marks in Chemistry: %d \n", max1);

printf("Highest marks in Maths: %d \n",max2);

return 0;

}

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6. Implement a program to concatenate two strings without using built in functions

#include<stdio.h>

void concatenate(char [], char []);

int main()

{

char p[50], q[50];

printf("Input a string: \n");

gets(p);

printf("Input another string to concatenate: \n");

gets(q);

concatenate(p,q);

printf("String obtained on concatenation: \n%s", p);

return 0;

}

void concatenate(char p[], char q[])

{

int x, y;

x=0;

while(p[x] != '\0')

{

x++;

}

y=0;

while(q[y] != '\0')

{

p[x]=q[y];

y++;

x++;

}

p[x] = '\0';

}

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7. Develop a program to read and print employee details using structures

#include<stdio.h>

struct employee

{

int id;

char name[50];

float salary;

long int phoneno;

char email[50];

};

int main()

{

struct employee emp;

printf("Enter employee ID: ");

scanf("%d",&emp.id);

printf("Enter employee name: ");

scanf(" %s",&emp.name);

printf("Enter employee salary per annum: ");

scanf("%f",&emp.salary);

printf("Enter employee phone number: ");

scanf("%ld",&emp.phoneno);

printf("Enter employee email-id: ");

scanf("%s",emp.email);

printf("Employee details: \nID: %d \nName: %s \nSalary: %f \nPhone number: %ld \nEmail-id: %s \n ",emp.id,emp.name,emp.salary,emp.phoneno,emp.email);

return 0;

}

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