**Array**

**1:Array reverse**

#include <stdio.h>

int main(){

int arr[5]={1,2,3,4,5};

int n= sizeof(arr)/sizeof(int);

for(int i=0,j=n-1;i<n/2;i++,j--){

int temp=arr[i];

arr[i]=arr[j];

arr[j]=temp;

}

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

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

}

return 0;

}

**2.Linear Search Algorithm**

#include <stdio.h>

int main(){

int arr[10]={32,43,1,42,64,88,2,5,68,23};

int key=43;

int i;

for(i=0;i<10;i++){

if(arr[i]==key){

printf("Found");

break;

}

}

if(i==10) printf("Not found");

return 0;

}

**3.Bubble Sorting**{ i no position e thaka number jodi j no position e thaka number thke boro hoi, then swap hobe. Otherwise i++,j++ hote thakbe}

#include <stdio.h>

int main(){

int arr[10]={32,43,1,44,64,88,2,5,68,23};

for(int i=0;i<10;i++){

for(int j=i+1;j<10;j++){

if(arr[i]>arr[j]){

int temp=arr[i];

arr[i]=arr[j];

arr[j]=temp;

}

}

}

for (int i=0;i<10;i++){

printf("%dth element is %d\n",i+1,arr[i]);

}

return 0;

}

**4.2D array**

#include<stdio.h>

int main(){

int disp[2][2];

int disp1[2][2];

int i,j;

for(i=0;i<2;i++){

for(j=0;j<2;j++){

printf("Enter value for disp[%d][%d]:",i,j);

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

}

}

printf("Two dimentional array elements:\n");

for(i=0;i<2;i++){

for(j=0;j<2;j++){

printf("%d",disp[i][j]);

}

printf("\n");

}

printf("\n");

for(i=0;i<2;i++){

for(j=0;j<2;j++){

disp1[i][j]=disp[j][i];

printf("%d",disp1[i][j]);

}

printf("\n");

}

return 0;

}

**5.Matrics Multiplication**

#include<stdio.h>

int main(){

int disp[2][2];

int disp1[2][2];

int m[2][2];

int i,j;

for(i=0;i<2;i++){

for(j=0;j<2;j++){

printf("Enter value for disp[%d][%d]:",i,j);

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

}

}

for(i=0;i<2;i++){

for(j=0;j<2;j++){

printf("Enter value for disp1[%d][%d]:",i,j);

scanf("%d",&disp1[i][j]);

}

}

printf(":\n");

for(i=0;i<2;i++){

for(j=0;j<2;j++){

printf("%d ",disp[i][j]);

}

printf("\n");

}

printf("\n");

for(i=0;i<2;i++){

for(j=0;j<2;j++){

printf("%d ",disp1[i][j]);

}

printf("\n");

}

printf("\n");

for(i=0;i<2;i++){

for(j=0;j<2;j++){

m[i][j]=0;

for(int k=0;k<2;k++){

**m[i][j]=m[i][j]+disp[i][k]\*disp1[k][j];**

}

printf("%d ",m[i][j]);

}

printf("\n");

}

return 0;

}

**6.Suppose,there are 5 students in a class and each student asked to give the TER for the three subjects including physics,math & chemistry within a scale of 10. Now your task is to-**

**a)Find the average rating of any student.**

**b)Find the average rating of each student.**

**c)Find the average rating of all students.**

**Solution:**

**a)** #include<stdio.h>

int main(){

int i,j,n;

int rating[5][3]={{7,8,4},{5,3,9},{10,5,6},{3,5,9},{8,9,10}};

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

for(j=0;j<3;j++){

printf("%d ",rating[i][j]);

}

printf("\n");

}

printf("Average rating of student no. ");

scanf("%d",&n);

int sum=0;

double average;

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

for(j=0;j<3;j++){

sum+=rating[n-1][j];

}

average=(double)sum/3;

sum=0;

}

printf(": %.2lf\n",average);

return 0;

}

**b)** #include<stdio.h>

int main(){

int i,j,n;

int rating[5][3]={{7,8,4},{5,3,9},{10,5,6},{3,5,9},{8,9,10}};

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

for(j=0;j<3;j++){

printf("%d ",rating[i][j]);

}

printf("\n");

}

int sum=0;

double average;

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

for(j=0;j<3;j++){

sum+=rating[i][j];

}

average=(double)sum/3;

sum=0;

printf("Average rating of student%d: %.2lf\n",i+1,average);

}

return 0;

}

**c)** #include<stdio.h>

int main(){

int i,j;

int rating[5][3]={{7,8,4},{5,3,9},{10,5,6},{3,5,9},{8,9,10}};

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

for(j=0;j<3;j++){

printf("%d ",rating[i][j]);

}

printf("\n");

}

int sum=0;

double average,sum\_average,average\_all=0;

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

for(j=0;j<3;j++){

sum+=rating[i][j];

}

average=(double)sum/3;

sum=0;

printf("Average rating of student%d: %.2lf\n",i+1,average);

sum\_average+=average;

}

average\_all=sum\_average/5;

printf("Average rating of all students: %.2lf",average\_all);

return 0;

}

**7.**



#include<stdio.h>

int main()

{

int digit[10][7]= {{1,1,1,1,1,1,0},{0,1,1,0,0,0,0},{1,1,0,1,1,0,1},{1,1,1,1,0,0,1},{0,1,1,0,0,1,1},{1,0,1,1,0,1,1},{1,0,1,1,1,1,1}, {1,1,1,0,0,0,0},{1,1,1,1,1,1,1},{1,1,1,1,0,1,1}};

for (int i=0;i<10;i++){

if(digit[i][0]==1) printf(" - ");

else printf(" ");

printf("\n");

if(digit[i][5]==1 && digit[i][1]==1) printf("| |");

else if(digit[i][5]==1 && digit[i][1]!=1) printf("| ");

else if(digit[i][5]!=1 && digit[i][1]==1) printf(" |");

printf("\n");

if(digit[i][6]==1) printf(" - ");

else printf(" ");

printf("\n");

if(digit[i][4]==1 && digit[i][2]==1) printf("| |");

else if(digit[i][4]==1 && digit[i][2]!=1) printf("| ");

else if(digit[i][4]!=1 && digit[i][2]==1) printf(" |");

printf("\n");

if(digit[i][3]==1) printf(" - ");

else printf(" ");

printf("\n");

printf("\n");

}

return 0;

}

**8. Show the digital display of the given number:**

#include<stdio.h>

int main()

{

int digit[10][7]=

{{1,1,1,1,1,1,0},{0,1,1,0,0,0,0},{1,1,0,1,1,0,1},{1,1,1,1,0,0,1},{0,1,1,0,0,1,1},{1,0,1,1,0,1,1},{1,0,1,1,1,1,1},

{1,1,1,0,0,0,0},{1,1,1,1,1,1,1},{1,1,1,1,0,1,1}};

int i;

printf("Input the number: ");

scanf("%d",&i);

printf("\nThe digital display of the number:\n");

if(i>=0 && i<=9){

if(digit[i][0]==1) printf(" - ");

else printf(" ");

printf("\n");

if(digit[i][5]==1 && digit[i][1]==1) printf("| |");

else if(digit[i][5]==1 && digit[i][1]!=1) printf("| ");

else if(digit[i][5]!=1 && digit[i][1]==1) printf(" |");

printf("\n");

if(digit[i][6]==1) printf(" - ");

else printf(" ");

printf("\n");

if(digit[i][4]==1 && digit[i][2]==1) printf("| |");

else if(digit[i][4]==1 && digit[i][2]!=1) printf("| ");

else if(digit[i][4]!=1 && digit[i][2]==1) printf(" |");

printf("\n");

if(digit[i][3]==1) printf(" - ");

else printf(" ");

printf("\n");

}

return 0;

}