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**Assignment: Week 4.**

**Problem 401.**

#include<iostream> //library

using namespace std;

int main() {

int arr[100]; //array initialization

int z, i, m; //variables initialization

for (i = 0; i < 100; i++) //loop

{

cin >> z; //input

if (z == -1) //condition

{

break; //if the conditions are true – stop function

}

arr[i] = z; //array is equal to the specified number

}

cout << i << endl; //output

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

{

cout << arr[m] << " "; //output numbers

}

return 0;

**Problem 403.**

#include <iostream>

using namespace std;

int main() {

int arr[1000]; //array initialization

int z, x; //variables initialization

cin >> z; //input

for (int i = 0; i < z; i++) //cycle

{

cin >> x; //input

/\* we introduced the variable x to equate it to an array, because later we won't be able to write "arr[i]"\*/

arr[i] = x;

}

int min = arr[0]; // instead of arr[0] we can enter any value of the array

for (int i = 0; i < z; i++) //cycle

{

if (min>arr[i]) //condition

{

min=arr[i]; //if the conditions are true - equate these values

}

}

cout << min; //output

return 0;

}

**Problem 404.**

#include <iostream>

using namespace std;

int main() {

int arr[1000]; //array initialization

int z, x; //variables initialization

int a; //"a" here is our index

cin >> z; //input

for (int i = 0; i < z; i++) //cycle

{

cin >> x; //input

/\* we introduced the variable x to equate it to an array, because later we won't be able to write "arr[i]"\*/

arr[i] = x;

}

int min = arr[0]; // instead of arr [0] we can enter any value of the array

for (int i = 0; i < z; i++) //cycle

{

if (min>arr[i]) //condition

{

min=arr[i]; //if the conditions are true - equate these values

a=i; //equate values

}

}

cout << a; //output

return 0;

}

**Problem 405.**

#include<iostream>

using namespace std;

int main() {

int arr[777]; //array initialization

int n; //variable initialization

int z; //variable initialization

int c = 0; //variable initialization

int max = arr[3]; // max equate to array

cin >> n; //input

for (int i = 0; i < n; i++) //cycle

{

cin >> z; //input

arr[i] = z; //array is equal to the specified number

if (arr[i] > max) //condition

{

max = arr[i]; //if the conditions are true - equate these values

}

}

for (int i = 0; i < n; i++) //cycle

{

if (max == arr[i]) //condition

{

c++;

}

}

cout << c; //output

return 0;

}

**Problem 406.**

#include <iostream>

using namespace std;

int main() {

char arr[1000]; //letter array

int z, a=0; //variables initialization

cin >> z; //input

for (int i = 0; i < z; i++) //cycle

{

cin >> arr[i]; //input

}

for (int m = 0; m < z; m++) //cycle

{

if (arr[m] == 'A') //condition

{

a++; //if the condition is true, execute this command

}

cout << a; //output

return 0;

}

**Problem 408.**

#include <iostream>

using namespace std;

int main() {

int arr[2000]; //array initialization

int m, z; //variables initialization

cin >> m; //input

int i = 0; //variable initialization

while (i < m) //cycle

{

i++;

cin >> z; //input

arr[i] = z; //equate values

int k = 0; //variable initialization

while (k < i) //cycle

{

k++;

if (arr[i] < arr[k]) //condition

{

swap(arr[i], arr[k]); /\*if the condition is true, swap these values\*/

}

}

}

i = 0;

while (i<m) //cycle

{

i++;

cout << arr[i] << " "; //output

}

return 0;

}

**Problem 409.**

#include <iostream>

using namespace std;

int main() {

int z; //variable initialization

int h, min, sec; //variables initialization

int arr[100]; //array initialization

cin >> z; //input

for (int i = 0; i < z; i++) //cycle

{

cin >> h >> min >> sec; //input variables

arr[i] = (h \* 3600) + (min \* 60) + (sec); //array, turn into seconds

}

for (int i = 0; i < z; i++) //cycle

{

for (int n = 0; n < i; n++) //cycle

{

if (arr[i] < arr[n]) //condition

{

swap(arr[i], arr[n]); /\*if the condition is true, swap these values\*/

}

}

}

for (int i = 0; i < z; i++) //cycle

{

h = (arr[i] / 3600); //hour divided by seconds

min = (arr[i] / 60) - (h \* 60);

/\*we perform the same actions as with the hour\*/

sec = arr[i] % 60;

cout << h << " " << min << " " << sec << " " << endl; //output

}

}

**Problem 410.**

#include <iostream>

using namespace std;

int main() {

int z; //variable initialization

int x; //variable initialization

cin >> z; //input

int i = 2; //variable initialization

while (i <= z / 2) //cycle

{

i++;

x = true;

if (z % i == 0) //condition

{

x = false;

break; //if the conditions are true – stop function

}

}

if (x == true) //condition

{

cout << "YES"; //output

}

else //loop

{

cout << "NO"; //output

}

}

**Problem 411.**

#include <iostream>

using namespace std;

int main() {

int z, v; //variables initialization

cin >> z; //input

for (int i=2; i <= z; i++) //cycle

{

v = true; //part of the cycle

for (int j=2; j\*j<=i ; j++) //cycle

{

if (i % j == 0) //condition

{

v = false; //part of the condition

}

}

if (v == true) //condition

{

cout << i << " "; //output

}

}

}

Problem 402.

#include <iostream>

#include <cmath>

using namespace std;

int main() {

double arr[77];

int z = 0;

for (int k = 0; k < 77; k++) {

cin >> arr[k];

if (arr[k] == 0) {

break;

}

z++;

}

cout << z << endl;

for (int k = z - 1; k >= 0; k--) {

cout << sqrt(arr[k]) << endl;

}

}