#include <iostream>

#include <string>

#include <stdio.h>

#include <math.h>

using namespace std;

void first\_task ()

{

printf("\nПервое задание:\n");

string first\_task[5] = {

"Вася", "пошел", "гулять", " в лес", "за грибами"

};

string retreat;

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

retreat += string(first\_task[i].length()/2, ' ');

cout << retreat << first\_task[i] << endl;

};

retreat = string(7, ' ');

string letters\_g = string("Ж");

for (int i = 0; i < 6; i++) {

if (i < 4)

{

retreat = string(6 - i, ' ');

cout << retreat << letters\_g << endl;

letters\_g += "ЖЖ";

}

else if (i == 4)

{

cout << "\tHH HH" << endl;

}

else

{

cout << "\tZZZZZ" << endl;

}

};

}

void second\_task(){

printf("\nВторое задание:\n");

int first\_number, second\_number, third\_number, fourth\_number;

int summ, multi;

float average;

first\_number = 1;

second\_number = 2;

third\_number = 3;

fourth\_number = 4;

// scanf("%d%d%d%d", &first\_number, &second\_number, &third\_number, &fourth\_number);

summ = first\_number + second\_number + third\_number + fourth\_number;

average = float(summ) / 4;

multi = first\_number \* second\_number \* third\_number \* fourth\_number;

printf("%d + %d + %d + %d = %d\n", first\_number, second\_number, third\_number, fourth\_number, summ);

printf("%d \* %d \* %d \* %d = %d\n", first\_number, second\_number, third\_number, fourth\_number, multi);

printf("Average of: %d, %d, %d, %d is: %.2f \n\n", first\_number, second\_number, third\_number, fourth\_number, average);

}

void third\_task(){

printf("\nТретье задание:\n");

double a\_coeff, b\_coeff, c\_coeff, discriminant;

printf("Введите коэффициенты квадратного уравнения:\n");

a\_coeff = 1;

b\_coeff = 2;

c\_coeff = 0;

// scanf("%lf%lf%lf", &a\_coeff, &b\_coeff, &c\_coeff);

if (a\_coeff == 0){

printf("коеффициент а равен 0\n");

}

else

{

discriminant = b\_coeff \* b\_coeff - 4 \* a\_coeff \* c\_coeff;

if (discriminant > 0){

double x1= (-b\_coeff + sqrt(discriminant)) / (2 \* a\_coeff);

double x2 = (-b\_coeff - sqrt(discriminant)) / (2 \* a\_coeff);

printf("Корни вещественные: x1=%lf, x2=%lf\n", x1, x2);

}

else if (discriminant == 0){

double x = (-b\_coeff / (2 \* a\_coeff));

printf("Один корень: x=%lf\n", x);

}

else {

double real = -b\_coeff / (2 \* a\_coeff);

double im = sqrt(-discriminant) / (2 \* a\_coeff);

printf("Корни мнимые: x1=%lf+%lfi, x2=%lf-%lfi\n", real, im, real, im);

}

}

}

int max\_of\_array(int massive[], int len\_of\_massive){

int max = 0;

for(int i = 0; i < len\_of\_massive; i++)

{

if(massive[i] > max)

{

max = massive[i];

};

};

return max;

}

void fourth\_task(){

printf("\nЧетвертое задание:\n");

int first\_numbers[5] = {77, 13, 43, 55, 56};

int second\_numbers[5] = {84, 75, 39, 33, 76};

int third\_numbers[5] = {63, 59, 81, 58, 13};

int fourth\_numbers[8] = {70, 47, 22, 26, 4, 33, 68, 63};

int fifth\_numbers[8] = {26, 90, 40, 19, 41, 18, 92, 46};

int sixth\_numbers[8] = {78, 21, 91, 2, 26, 62, 71, 4};

int \*arrays[6] = {first\_numbers, second\_numbers, third\_numbers, fourth\_numbers, fifth\_numbers, sixth\_numbers};

int len\_of\_arrays = sizeof(arrays) / sizeof(arrays[0]);

for(int i = 0; i < len\_of\_arrays; i++){

int len\_of\_array;

if (i<3){

len\_of\_array = 5;

}

else

{

len\_of\_array = 8;

}

int maximum = max\_of\_array(arrays[i], len\_of\_array);

printf("Max of array#%d is %d\n", i+1, maximum);

}

int month\_numbers[3] = {4, 7, 10};

for(int i = 0; i < 3; i++){

if (3 <= month\_numbers[i] && month\_numbers[i] <= 5){

printf("Mесяц %d соответсвует: Весна\n", month\_numbers[i]);

}

else if (6 <= month\_numbers[i] && month\_numbers[i] <= 8){

printf("Mесяц %d соответсвует: Лето\n", month\_numbers[i]);

}

else if (9 <= month\_numbers[i] && month\_numbers[i] <= 11){

printf("Mесяц %d соответсвует: Осень\n", month\_numbers[i]);

}

else

{

printf("Mесяц %d соответсвует: Зима\n", month\_numbers[i]);

}

}

}

int main(int argc, char\* argv[])

{

first\_task();

second\_task();

third\_task();

fourth\_task();

}