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// W13_0.cpp : Defines the entry point for the console application.
//          Funkcje ogolne (szablony funkcji)

#include "stdafx.h"
#include <iostream>
using namespace std;

template <class T> T sum(T &a, T &b);

class coord
{
    double x, y;
public:
    coord(double xx, double yy) { x = xx; y = yy; }
    coord() { x=0; y=0; }
    void disp() { cout << " x = " << x << " y = " << y << endl; }
    coord(const coord &ob) { x = ob.x; y = ob.y; }
    coord operator+(coord &ob)
    {
        coord tmp;
        tmp.x = x+ob.x;
        tmp.y = y+ob.y;
        return tmp;
    }
    coord & operator=(coord &ob) { x = ob.x; y = ob.y; return *this; }
};

int _tmain(int argc, _TCHAR* argv[])
{
    //-----test 1-----
    int int_a = 10, int_b = 20;
    int res = sum(int_a, int_b);
    cout << " test int: res = a+b " << res << endl;

    //-----test 2-----
    double d_a = 2.56, d_b = 6.32;
    double d_res = sum(d_a, d_b);
    cout << " test double: res = a+b " << d_res << endl;

    //-----test 3-----
    coord c1(1, 2), c2(3, 4), c3;
    c3 = sum(c1, c2);
    cout << " test coord: c3 = c1+c2 \n";
}

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    cout << "c1: ";
    c1.disp();
    cout << "c2: ";
    c2.disp();
    cout << "c3: ";
    c3.disp();

    system("pause");
    return 0;
}

template <class T> T sum(T &a, T &b)
/*=====
Zwraca sume a+b, gdzie a, b - zmienne dowolnego typu
=====*/
{
    T c;
    c = a + b;
    return c;
}
```