

ПРИЛОЖЕНИЕ А

Листинг программы

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#include <iostream>

using namespace std;

typedef __float128 f128;

static constexpr const f128 C_x = 24.00;
static constexpr const f128 C_y = 6.00;
static constexpr const f128 BUDGET = 20.00;
static constexpr const f128 R_1 = 10.35;
static constexpr const f128 R_2 = 2.70;

f128 Ro(const f128 t)
{
    return R_1 + R_2 - R_1 * BUDGET / C_x + (R_1 / C_x - R_2 / C_y) * t;
}

int main(void)
{
    static constexpr const f128 tMIN = 0.00;
    static constexpr const f128 tMAX = 6.00;
    static constexpr const f128 tSTEP = 0.0000005;

    f128 min_t = 0, min_v = Ro(min_t);
    f128 t = tMIN - tSTEP;

    cout << "1) t = " << (long double)tMIN << "\tRo = " << (long double)Ro(tMIN) << endl;

    cout << "2) t = " << (long double)((tMIN + tMAX) / 2) << "\tRo = " << (long double)Ro((tMIN + tMAX) / 2) << endl;

    cout << "3) t = " << (long double)tMAX << "\tRo = " << (long double)Ro(tMAX) << endl;

    while (true)
    {
        if (t >= tMAX) break;
        t += tSTEP;
        f128 tmp = Ro(t);
        if (tmp >= min_v) continue;
        min_t = t;
    }

    cout << "Best t = " << (long double)min_t << "\tRo = " << (long double)Ro(min_t) << endl;

    return 0;
}
```