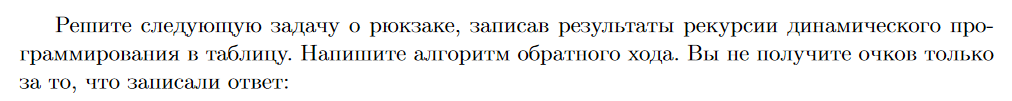
Лабораторная работа №4

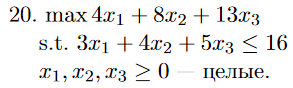
Коптев Глеб Егорович

Группа 12, КТС

Вариант 20

**Условие:**



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**Решение: листинг кода**

#include <iostream>

#include <vector>

using namespace std;

int main() {

vector<int> v = { 4, 8, 13 };

vector<int> ww = { 3, 4, 5 };

int n = 3;

int W = 16;

vector<vector<int>> f(n + 1);

vector<vector<int>> p(n + 1);

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

f[i].resize(W + 1);

p[i].resize(W + 1);

}

for (int w = 0; w < W; w++) {

f[0][w] = 0;

}

for (int i = 1; i <= n; i++) {

for (int w = 1; w <= W; w++) {

f[i][w] = f[i - 1][w];

if (ww[i - 1] <= w)

f[i][w] = max(f[i - 1][w],

f[i][w - ww[i - 1]] + v[i - 1]);

if (f[i][w] == f[i - 1][w]) {

p[i][w] = 0;

}

else {

p[i][w] = 1;

}

}

}

cout << "Result: " << f[n][W] << endl;

vector<int> x(n, 0);

int j = W;

for (int i = n; i >= 0; i--) {

while (j > 0) {

if (p[i][j] == 1) {

x[i - 1]++;

j -= ww[i - 1];

}

else {

break;

}

}

}

cout << "w" << "\t";

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

cout << "f" << j << "\t" << "p" << j << "\t";

}

cout << endl;

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

cout << i << "\t";

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

cout << f[j][i] << "\t" << p[j][i] << "\t";

}

cout << endl;

}

cout << endl;

cout << "Result: ";

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

cout << x[i] << " ";

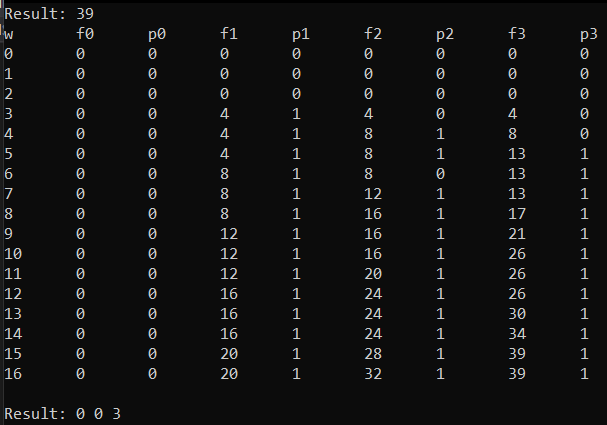
}

return 0;

system("pause");

}

**Результат работы:**

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