DAA – Lab8

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**Source Code:**

#include "stdio.h"

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

{

int n = 5;

float capacity = 10;

float w[5] = {2,3,4,2,5} ;

float p[5] = {20,25,30,20,15} ;

float pw[5];

int i;

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

{

pw[i] = (float)p[i]/(float)w[i];

// printf("%f\n",pw[i]);

}

float swap;

for (int i = 0; i < n-1; ++i)

{

for (int j = 0; j < n-i-1; ++j)

{

if ((float)pw[j] > (float)pw[j+1])

{

/\* Sort pw \*/

swap = pw[j];

pw[j] = pw[j+1];

pw[j+1] = swap;

/\* Sort p \*/

swap = p[j];

p[j] = p[j+1];

p[j+1] = swap;

/\* Sort w \*/

swap = w[j];

w[j] = w[j+1];

w[j+1] = swap;

}

}

}

printf("Profits\n");

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

printf("%f\t",p[i]);

}

printf("\n");

printf("Weights\n");

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

printf("%f\t",w[i]);

}

printf("\n");

printf("Profits/Weights\n");

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

printf("%f\t",pw[i]);

}

printf("\n");

float fractionw=0;

float fractionp = 0;

float profit = 0;

float take = 0;

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

{

if (w[i]>(capacity-take))

{

profit = ((capacity-take)/w[i]) \* p[i];

// printf("item taken = [%f,%f], fraction = %f\n",p[i], w[i], ((capacity-take)/w[i]) \* w[i]);

break;

}

take = take + w[i];

profit = profit + p[i];

// printf("%f\n",p[i]);

// printf("item taken = [%f,%f]\n",p[i], w[i]);

}

// printf("\n\n");

return 0;

}

**Screenshot:**

