#include <stdio.h>

int d[610][610];

int main()

{

int n, m, k, i, j;

scanf("%d%d%d", &n, &m, &k);

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

for (j = 1; j <= m; j++)

d[i][j] = i\*j;

while (k--)

{

scanf("%d%d", &i, &j);

d[i][j] = 0;

}

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

for (j = 1; j <= m; j++)

{

for (k = 1; (k<<1) <= i; k++)

if (d[i][j] > d[k][j]+d[i-k][j])

d[i][j] = d[k][j]+d[i-k][j];

for (k = 1; (k<<1) <= j; k++)

if (d[i][j] > d[i][k]+d[i][j-k])

d[i][j] = d[i][k]+d[i][j-k];

}

printf("%d\n", d[n][m]);

return 0;

}