## 1. Introduction

The task requires us to have small amount of stamping process. This requirement led us to use search algorithms. The optimal solution can be found using search algorithm. However, the time limit on each task is making it impossible to get the optimal solution. Therefore we decided to use search algorithms based on the input values. For the small cases, we are using optimal search algorithm and for the medium cases, we are using efficient search algorithm but not necessarily optimal. And last, for the big cases, we are using randomized algorithm.

## 2. Approach

- Small cases: Breadth-First search

- Medium cases: A* heuristic search

- Big cases: Monte-Carlo

## 3. Optimization

In order to utilize modern technologies, we decided to use capabilities such as multiprocessing and 64bit operating system. Thus we are dividing the algorithm into pieces and distributing the pieces to processors. Our search algorithm uses much memory. It led us to use 64 bit OS to avoid memory limit on 32 bit OS.

## 4. Environment

Microsoft .NET 2008 – Team edition

Visual C++