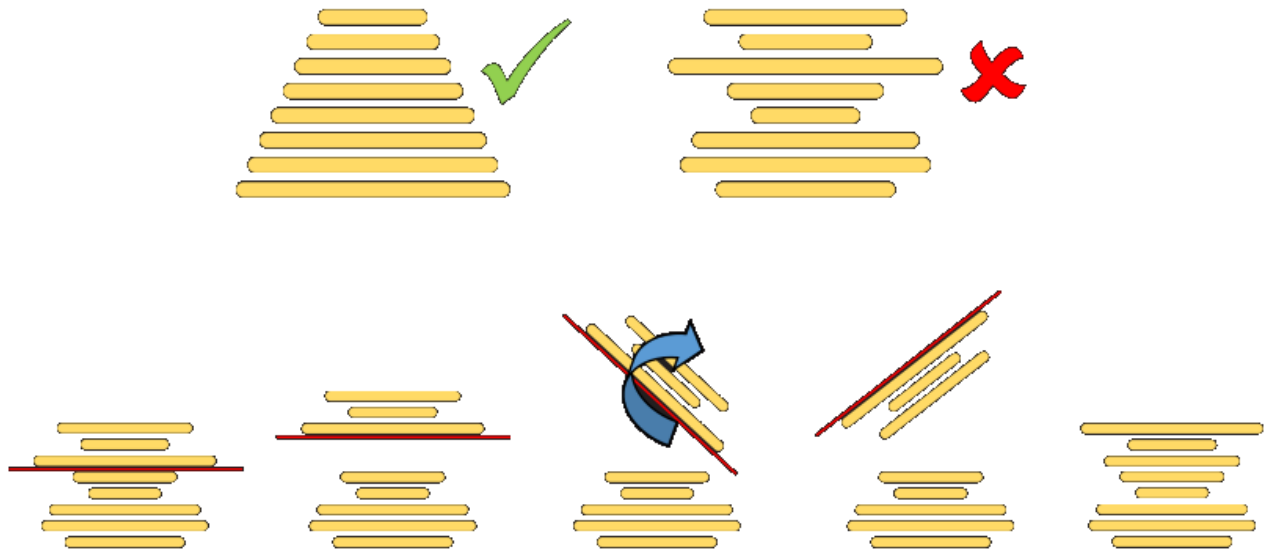


**Problem Statement:**

*“The chef in our place is careless, and when he prepares a stack of pancakes they come out all different sizes. Therefore, when I deliver them to a customer, on the way to the table, I rearrange them (so that the smallest winds up on top, and so on, down to the largest at the bottom), by grabbing several from the top and flipping them over, repeating this (varying the number I flip) as many times as necessary. **If there are  $n$  pancakes, what is the minimum number of flips that I will have to use to rearrange them?**”*



Source: <http://datagenetics.com/blog/february42018/index.html>

You are required to write a program that is able to solve this puzzle using A\* Search, and print the steps to solution. Follow these steps:

1. Take an array as input from file.
2. Your State class must have the following members: parent, f\_score(), h\_score(), genNextStates(), printStack()
3. **You'll have to use two different heuristic functions.**
4. Your Solver class will contain the A\* search function shown in the sessional class.
5. From your Driver class, call solver to solve the puzzle, & printout the steps **using parent member of each state.**
6. **Write a report comparing steps taken on your two heuristics. Submit it with your other files**
7. **GUI must not be in the console.**

**Marks Distribution:**

Submission	State class	generateNextState()	Heuristics	A* Implementation	Report	+ UI (Bonus)	Total
10	20	10	20	30	10	20	<b>(100+20)</b>

**Submission:**

1. Put all necessary file in a single Folder. Name it: cse404<SectionA1/B1/A2/B2>\_task1\_<Your Roll Number>

2. Put the folder in a zip file. Name it the same as that of folder.
3. Email the zip file in this email: [submission.cse.mist@gmail.com](mailto:submission.cse.mist@gmail.com) . The subject of the email must be same as the name of your folder.
4. **Deadline: 7 March, 2018 11:59PM.**