Practice Lessons

Oct. 2 2025

1) String Matching (Pattern Matching)

String Matching

String Matching

- **Input:** Two strings s and p of sizes n and m respectively.
- **Output:** Determine if p is a substring of s. Return the starting position of s if it is and -1 otherwise.

Sample input and output

- Sample input:

```
acgtacct
cgta
```

```
acgtacct
acgg
```

- Sample output:

```
1
```

```
-1
```

Note: You must implement the failure function `fail()` introduced in the class.

2). Sudoku Solver

- Input from the instance generator:
  https://onlinegdb.com/DBfACrY3SF

```
2 5 8 0 0 0 0 4 6
4 0 6 2 0 8 3 7 9
3 7 0 0 0 6 2 5 8
5 8 0 0 0 4 9 0 2
1 2 4 0 9 3 6 8 7
6 0 7 8 2 1 4 3 0
7 6 0 4 1 0 0 0 0
8 3 1 0 6 0 0 2 4
0 4 5 3 8 2 7 6 1
```

Note:
1) You can try to solve it recursively.

- Sample output:

```
2 5 8|7 3 9|1 4 6|
4 1 6|2 5 8|3 7 9|
3 7 9|1 4 6|2 5 8|
- - - - - - - - -
5 8 3|6 7 4|9 1 2|
1 2 4|5 9 3|6 8 7|
6 9 7|8 2 1|4 3 5|
- - - - - - - - -
7 6 2|4 1 5|8 9 3|
8 3 1|9 6 7|5 2 4|
9 4 5|3 8 2|7 6 1|
```