**Task 1**

Implementing a Context-Free Grammar (CFG) parser that checks if a given string can be derived from the grammar rules.

|  |  |
| --- | --- |
| Input | Output |
| 6  S AB  S BA  A aaB  B Bb  B AB  B NULL  **aab** | Accepted |
| 6  S AB  S BA  A aaB  B Bb  B AB  B NULL  **aba** | Rejected |

**Explanation for Test case 1**

S → AB → aaB → aab

**Task 2**

Operator Precedence Parsing

**Sample input:**

3+4-5

2\*4-8/2

15\*10%7-2

(122+3)/15-5

**Sample output:**

2

4

1

3.33