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Deliverable 3: YACC grammar

Problem description:

After translating to tokens, the now the job of the parser is to take those tokens and write into the .asm file the valid syntax for the CPU to use. The grammar provided allows the user to define instructions for the robot to follow; it allows the user to control the robot's movements, rotation and position on the grid.

Context Free Grammar

```
⟨STATEMENT_LIST⟩ → ⟨STATEMENT⟩ | ⟨STATEMENT_LIST⟩ ⟨STATEMENT⟩
⟨STATEMENT⟩ → ⟨NOUN_PHRASE⟩ ⟨ROBOT_COMMAND⟩
⟨ROBOT_COMMAND⟩ → ⟨ACTION⟩ | ⟨ACTION⟩ ⟨CONJUNCTION⟩ ⟨ACTION⟩ | ⟨ACTION⟩ ⟨CONJUNCTION⟩
⟨ADVERB⟩ ⟨ACTION⟩
⟨NOUN_PHRASE⟩ → ⟨NOUN⟩ ⟨KIND_WORD⟩
⟨ACTION⟩ → ⟨MOVEMENT⟩ | ⟨ROTATION⟩ | ⟨ACTION⟩ ⟨ADVERB⟩ ⟨ACTION⟩ | ⟨ACTION⟩ ⟨CONJUNCTION⟩
⟨ACTION⟩
⟨MOVEMENT⟩ → ⟨POSITION⟩ ⟨NUMBER⟩ ⟨BLOCKS⟩ ⟨DIRECTION⟩ | ⟨POSITION⟩ ⟨NUMBER⟩ ⟨BLOCKS⟩ |
⟨POSITION⟩ ⟨BLOCKS⟩ ⟨NUMBER⟩ ⟨DIRECTION⟩
⟨ROTATION⟩ → ⟨ORIENTATION⟩ ⟨ANGLE⟩ ⟨DEGREES⟩ | ORIENTATION⟩ ⟨DIRECTION⟩
```

Valid Sentences

With the tokens already defined, examples of valid sentences are as follows:

```
* Robot please move 2 blocks ahead
* Robot please move 3 blocks ahead and then turn 90 degrees, then move 2
blocks
```

Examples of invalid sentences:

```
* Robot moves 2 blocks
* Robot moves 2 blocks quickly
* Move 2 blocks right now
* Robot 2 blocks moves
* Moves Robot 2 blocks and turns 89 degrees
```

Run example:

Input:

robot please move 3 blocks ahead and then turn 90 degrees, then move 2 blocks

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OUTPUT instructions.asm:

```
RobotComputationalMethods > Lex_Yacc > A instructions.asm
You, hace 10 horas | 1 author (You)

nov, 3

turn, 90

mov, 2

4
```