

CS200 - Programming Assignment 3

Due: Monday, October 9. Must be uploaded to Canvas before the beginning of class.

Please read the sections of the syllabus on programming assignments and honor code before starting this homework. I would also recommend reading the [rubric](#) for programming grading, so that you know how we will be grading this assignment.

1. [30 points]

Write a program in python or java that takes as input a string representing a logical predicate and outputs a truth table for that predicate. The predicate should be formed from variables that are denoted using capital letters, and the operators ‘and’, ‘or’, and ‘not’, as well as parentheses. Python is a good choice here because it has a function called `eval` that could be helpful. Here is a sample output:

```
>>> truth_table('(A and B) and not (P or not B)')
```

```
A B P || (A and B) and not (P or not B)
```

```
-----
```

```
T T T || F
```

```
T T F || T
```

```
T F T || F
```

```
T F F || F
```

```
F T T || F
```

```
F T F || F
```

```
F F T || F
```

```
F F F || F
```

Put a multi-line comment at the beginning of your program. It should contain:

- Your name
- “Programming Assignment 3”
- The name of anyone you worked with
- Sample output from your program
- The amount of time (approximately) that you spent on this assignment