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|-----|---|-----------------------|--------|----------|------------|--|--|
| | student | Jose Alfredo Martinez | | | | | |
| | instructor | Dave Harden | | | | | |
| | class | CS 10C | | | | | |
| | Assignment 5.1 [10 points] | | | | | | |
| 8a | trace xy\$xy | | | | | | |
| | i | ch | aStack | stackTop | inLanguage | | |
| | 0 | x | x | - | TRUE | | |
| | 1 | y | x y | - | TRUE | | |
| | 2 | \$ | x y | - | TRUE | | |
| | 3 | x | x | y | FALSE | | |
| | return not in language | | | | | | |
| 8c | trace xy\$y | | | | | | |
| | i | ch | aStack | stackTop | inLanguage | | |
| | 0 | x | x | - | TRUE | | |
| | 1 | y | x y | - | TRUE | | |
| | 2 | \$ | x y | - | TRUE | | |
| | 3 | y | x | y | TRUE | | |
| | return aString is not in language because aStack is not empty | | | | | | |
| 8e | trace xx\$xx | | | | | | |
| | i | ch | aStack | stackTop | inLanguage | | |
| | 0 | x | x | - | TRUE | | |
| | 1 | x | x x | - | TRUE | | |
| | 2 | \$ | x x | - | TRUE | | |
| | 3 | x | x | x | TRUE | | |
| | 4 | x | | x | TRUE | | |
| | return sString is in language | | | | | | |
| 11a | a = 7, b = 3, c = 12, d = -5, e = 1. | | | | | | |

| | | | | | | | |
|-----|----------------------------|------------------------|------------|---|--------|---------|--|
| | evaluate a b c + - | | | | | | |
| | i | ch | operand1 | operand2 | result | stack | |
| | 0 | 7 | - | - | - | 7 | |
| | 1 | 3 | - | - | - | 7 3 | |
| | 2 | 12 | - | - | - | 7 3 12 | |
| | 3 | + | 3 | 12 | 15 | 7 15 | |
| | 4 | - | 7 | 15 | -8 | -8 | |
| | | | | | | | |
| | | | | | | | |
| 11c | evaluate a b + c - d e * + | | | | | | |
| | i | ch | operand1 | operand2 | result | stack | |
| | 0 | 7 | - | - | - | 7 | |
| | 1 | 3 | - | - | - | 7 3 | |
| | 2 | + | 7 | 3 | 10 | 10 | |
| | 3 | 12 | - | - | - | 10 12 | |
| | 4 | - | 10 | 12 | -2 | -2 | |
| | 5 | -5 | - | - | - | -2 -5 | |
| | 6 | 1 | - | - | - | -2 -5 1 | |
| | 7 | * | -5 | 1 | -5 | -2 -5 | |
| | 8 | + | -2 | -5 | -7 | -7 | |
| | | | | | | | |
| 12a | a - b + c | | | | | | |
| | ch | aStack (bottom to top) | postfixExp | | | | |
| | a | | a | | | | |
| | - | - | a | | | | |
| | b | - | a b | | | | |
| | + | + | a b - | | | | |
| | c | + | a b - c | | | | |
| | | | a b - c + | all characters done, move operators from stack to postfix | | | |

| | | | | | | | |
|-----|--------------|------------------------|------------|---|--|--|--|
| 12c | a / (b * c) | | | | | | |
| | ch | aStack (bottom to top) | postfixExp | | | | |
| | a | | a | | | | |
| | / | / | a | | | | |
| | (| /(| a | | | | |
| | b | /(| a b | | | | |
| | * | /(* | a b | | | | |
| | c | /(* | a b c | | | | |
| |) | /(| a b c * | move all operators to stack till (character | | | |
| | | / | a b c * | string is complete, move all operators from stack to postfixExp | | | |
| | | | a b c * / | | | | |
| 12e | (a + b) * c | | | | | | |
| | ch | aStack (bottom to top) | postfixExp | | | | |
| | (| (| | | | | |
| | a | (| a | | | | |
| | + | (+ | a | | | | |
| | b | (+ | a b | | | | |
| |) | (| a b + | move all operators from stack till (reached | | | |
| | | | a b + | | | | |
| | * | * | a b + | | | | |
| | c | * | a b + c | | | | |
| | | | a b + c * | all characters done, move operators from stack to postfix | | | |
| 12g | a – (b + c) | | | | | | |
| | ch | aStack (bottom to top) | postfixExp | | | | |
| | | 1 | a | | | | |
| | - | - | a | | | | |
| | (| -(| a | | | | |
| | b | -(| a b | | | | |

| | | | | | | | |
|--|---|-------|-----------|---|--|--|--|
| | + | - (+ | a b | | | | |
| | c | - (+ | a b c | | | | |
| |) | - (| a b c + | move all operators from stack till (reached | | | |
| | | - | a b c + - | all characters done, move operators from stack to postfix | | | |