CS 1324 Spring 2021 Homework 2 Arithmetic Operators

Jordan McFadden

TOTAL POINTS

14 / 20

QUESTION 1

Question 1 10 pts

1.1 1a 1 / 1

✓ **- 0 pts Correct**

- **0 pts** Arithmetic error
- **1 pts** Result is of the incorrect type
- **1 pts** Precedence error
- **1 pts** Not answered
- **1 pts** Late submission

1.2 1b 1 / 1

✓ **- 0 pts Correct**

- **1 pts** Incorrect
- **0 pts** Sign incorrect, should have been -2.2
- **1 pts** Not answered
- **1 pts** Late submission

1.3 1c 1 / 1

✓ **- 0 pts Correct**

- **1 pts** Incorrect
- **1 pts** Not answered
- **1 pts** Late submission

1.4 1d 1 / 1

✓ **- 0 pts Correct**

- **1 pts** Incorrect
- **1 pts** Not answered
- **1 pts** Late submission

1.5 1e 1 / 1

✓ **- 0 pts Correct**

- **1 pts** Incorrect
- **1 pts** Not answered
- **1 pts** Late submission

1.6 1f 1 / 1

- **0 pts** Correct

✓ **- 0 pts Incorrect data type**

- **1 pts** Incorrect
- **1 pts** Not answered
- **1 pts** Late submission

Should be written as "94". It's a string not int.

1.7 1g 0 / 1

- **0 pts** Correct

✓ **- 1 pts Incorrect**

- **1 pts** Late submission
- **1 pts** Not answered

Illegal operation

1.8 1h 0 / 1

- **0 pts** Correct

✓ **- 1 pts Incorrect**

- **1 pts** Not answered
- **0 pts** Incorrect data type
- **1 pts** Late submission

2/3 is evaluated first, result is 0 (truncated as both 2 and 3 are int). Then 0*4 is 0. Finally, 3.0+0 is evaluated to 3.0.

1.9 1i 0 / 1

- **0 pts** Correct

✓ **- 1 pts Incorrect**

- **1 pts** Not answered
- **1 pts** Late submission

2.0*2 is evaluated first, result is 4.0 (2 is promoted to 2.0 as the first one (2.0) is a double). Then 4.0/3 is 1.333. Finally, 1.333+4 is evaluated to 5.333

1.10 1j 0 / 1

- **0 pts** Correct

✓ **- 1 pts Incorrect**

- **1 pts** Not answered
- **1 pts** Late submission

If 43 is divided by 7, the remainder is 1. So the result of 43%7 is 1

QUESTION 2

Question 2 10 pts

2.1 2a 2 / 2

✓ **- 0 pts Correct**

- **0 pts** Calculation off
- **1 pts** Result being of incorrect type
- **1 pts** Precedence error
- **2 pts** Not answered
- **2 pts** Late submission

2.2 2b 0 / 2

- **0 pts** Correct
- **0 pts** Calculation off
- **1 pts** Result being of incorrect type
- **1 pts** Precedence error

✓ **- 2 pts Not answered/ Incorrect**

- **2 pts** Late submission
- **1 pts** Partial

See the following:

= (int) 1.5 / 7

= 1 / 7

= 0

= 0.0 (because it is assigned to a double)

2.3 2c 2 / 2

✓ **- 0 pts Correct**

- **0 pts** Calculation off
- **1 pts** Result being of incorrect type
- **1 pts** Precedence error
- **2 pts** Not answered/ Incorrect
- **2 pts** Late submission
- **1 pts** Partial

= 1.5 * 3.0

= 4.5

4.5 cannot be assigned to an int (without a cast).

This is illegal

2.4 2d 2 / 2

✓ **- 0 pts Correct**

- **1 pts** Result is of incorrect data type
- **2 pts** Incorrect/ Not answered
- **1 pts** Partial
- **2 pts** Late submission

See the steps below:

= 7 + 18 + 3.0 / 3.0

= 7 + 18 + 1.0

= 25 + 1.0

= 25.0 + 1.0

= 26.0

2.5 2e 2 / 2

✓ **- 0 pts Correct**

- **1 pts** Partial
- **2 pts** Incorrect/ Not answered
- **2 pts** Late submission

Homework 2: Arithmetic Operators

CS 1323/4 Spring 2021

Name: Jordan McFadden

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1. (10 points; 1 point each) Perform each of the calculations below, and put the result in the box to the right. Pay careful attention to the difference between int and double (whether or not there is a decimal point) and String and char (whether there are single or double quotes). If the operation cannot be performed, say so.
   a. 4 + 7 — 11
   b. 3 – 5.2 — -2.2
   c. 4 + 7 / 2 — 7
   d. 4 + 7 / 2.0 — 7.5
   e. 4.0 + 3 / 2 — 5.0
   f. “9” + “4” — 94
   g. ‘9’ + ‘4’ — 109
   h. 3.0 + 2 / 3 * 4 — 12.0
   i. 2.0 * 2 / 3 + 4 — 5.0
   j. 43 % 7 — 6.14

2. (10 points; 2 points each) Assuming that the declarations below were made before each part, find the value of result for each expression below. If the expression is not legal in Java, say so. Pay attention to the difference between int and double and String and char. Pay attention to whether the assignment statement is legal. Show your work in the box to obtain partial credit. Decimals should be shown to three significant digits.

```
int  dog = 7;
double canine = 1.5;
int cat = 18;
double feline = 3.0;
```

a. double result = dog + cat * canine;

```
result = 7 + 18 *1.5;
result = 7 + 27.0;
double result = 34.0;
```

b. double result = (int) canine / dog;

```
result = (int) 1.5/7
result = 0.21(int)
double result = 0
not legal
```

c. int result = canine * feline;

```
result  = 1.5 * 3.0
int result = 4.5
not legal
```

d. double result = dog + cat + feline / 3.0;

```
result = 7 + 18 + 3.0/3.0
result = 25 + 1.0
double result = 26.0
```

e. double result = cat * feline / dog * canine;

```
result = 18 * 3.0/7 * 1.5
result = 54.0/7 * 1.5
result = 7.7142 * 1.5
double result = 11.5714
```