ACTIVITY: C1 ACT
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The electronic signatures above indicate that the document submitted for evaluation is the combined effort of all team members and that each member of the team was an equal participant in its creation. In addition, each member of the team has a general understanding of all aspects of the document development and execution.

TASK 1

PART B

1. There are two files starting with the file name, one without an extension, because one is the executable file (the one without the extension), and the other is the C source code file.
2. The line "./FILENAME" runs the executable file.

PART C

1. When you type a.out in UNIX, the compiled file runs!
2. Convenient: do not have to specify the file name, which is quicker! Inconvenient: the a.out file is overridden every time a new file is compiled without a name being specified, so to run an old program, one would have to recompile it!

TASK 2

PART A:

TABLE 1		
	Hand Calculation – 1	Hand Calculation – 2
1.	A = 1	A = 1
2.	B = ½ or 0.5	B = 0

3.	C = 3/2 or 1.5	C = 1
4.	D = 3/2 or 1.5	D = 0
5.	E = 13/3 or 4.33	E = 4
6.	F = 14/3 or 4.67	F = 4
7.	G = 5	G = 5
8.	H = 14/3 or 4.67	H = 4
9.	I = 5	I = 4
10.	J = 17/3 or 5.67	J = 5
11.	K = 36	K = 36
12.	L = -2	L = -2
13.	M = 2	M = 0

PART B:

1. The differences obtained between Hand Calculation 1 and Hand Calculation 2 occurred because in C, dividing integers returns an integer value, leaving the remainder out of the answer. Thus, if any integer division results in a value less than |1|, the answer would be 0.
2. Kathryn's Example: 1 / 3 * 3 = 0
   Hannah's Example: 4 + 1 / 2 = 4
   Josh's Example: 7 / 2^2 = 1
3. The variables would have to be declared as doubles and the integers would have to be stated as numbers with decimal places (i.e. 1 becomes 1.0).

TASK 3

PART B:

1. Yes, the same results were obtained, because the variables were initialized as doubles and the numbers used were put into decimal form (i.e. 1.0), which allows C to carry out mathematical operations as one would expect.
2. Parentheses, Exponents, Multiplication/Division, Addition/Subtraction is the order in which arithmetic operations take place in C.
3. The order of arithmetic operations does not change between integer and real arithmetic.

PART C:

1. Yes, the same results were obtained, because MATLAB and Python carry out mathematical operations as one would expect a calculator to.
2. Parentheses, Exponents, Multiplication/Division, Addition/Subtraction is the order in which arithmetic operations take place in C, MATLAB, and Python.
3. The order of arithmetic operations does not change between integer and real arithmetic.

TASK 4

PART A:

1. The output represents the amount of memory space that various types of data take up.
2. If a program takes up too much space, the variable types can be changed to types that are smaller so as to save memory space.