Question 1. Write out the contents of Array A, Array B, and Array C, after the following code executes:

ANSWER: A = [2,4,6,8,10], B = [12, 12, 12, 12, 12], C = [0,2,4,6,8,2,4,6,8,10].

Question 2. Rank the three indicators (Number A, Number B, and Number C) in the order in which the program will update their values when it first runs:

ANSWER: A = C, then A. B will never get updated.

Question 3. Name three different ways to pass a numeric value between two loops that are executing in parallel. For each of the three methods, briefly describe an example when you would want to use it.

ANSWER: 1. Queue. You would use it, for example, to transmit data in a lossless way from an acquisition loop to a logging loop. 2. Global Variable. You could use it to pass a command or parameter between loops running on different VI’s. 3. Local Variable. A good example of local variable use is if you need to know the most recent value of a front-panel control or indicator in more than one loop in your code.
**Question 4.** Write out the first five values of Indicator A after this VI is started. How would these values change if you wired 500ms into the bottom loop’s wait function instead of 100ms?

**ANSWER:** 1, 2, 4, 7, 11. Changing the bottom function’s wait to 500ms would not change anything because the timing of the bottom loop is limited by the rate at which the queue generates new elements.

**Question 5.** You want to use the VI below (front panel and block diagram shown) as a SubVI inside a different VI to divide two numbers and return the result, but are unable to. Why? How can you fix it?

**ANSWER:** The connector pane (top right corner of the Front Panel) is not wired to any of the front panel items. You need to wire Number 1, Number 2, and Number 3 to different connector terminals.