**2015 Question 4: Number Group (9 points)**

| Total Scored out of 9 |  |
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**Part A: Interface: NumberGroup (2 points)**

*Intent: Define interface to represent a number group*

+1 interface NumberGroup (point lost if visibility private)

+1 boolean contains(int num);

(point lost if visibility not public or extraneous code present)

**Part B: Class: Range (5 points)**

*Intent: Define implementation of* NumberGroup *representing a range of numbers*

+1 class Range implements NumberGroup (point lost if visibility private)

+1 Declares appropriate private instance variable(s)

+1 Uses correct constructor header

+1 Initializes instance variables within constructor using parameters

(point lost if bounds errors occur in container use)

+1 Computes and returns correct value from contains

(point lost for incorrect method header)

**Part C: contains (2 points)**

*Intent: Determine whether integer is part of any of the member number groups*

+1 Calls contains on elements of groupList in context of loop (no bounds errors)

+1 Computes and returns correct value

**Question-Specific Penalties**

-1 (s) Inappropriate use of static