Test Plan – RSA Numbers

When writing a test plan, the necessary cases to test will vary by problem.

As a starting point, write a test plan that looks for:

- the typical cases for the problem given
    - for example, test the example cases given in the problem specification

- the boundary conditions on all input values
    - for example, when valid inputs ranges between 1 and 10, be sure to…
        - test inputs of 1 and 10 (these should be accepted)
        - test inputs 0 and 11 (these should be rejected)

        (a common programming error is to use > or < when testing a range of numbers, when >= or <= should have been used instead)

- invalid inputs
    - for example, if a problem accepts integers as input, be sure to…
        - test string input (this should be rejected)
        - test real numbers, such as 2.3, as input (this should be rejected)

For a given case, show the input sequence, then list the precise expected output.

Test Cases

#	Description	Input & Expected Output	Score
1	Typical case • Prompts exactly as shown • Output message exactly as shown • Accurate count of RSA numbers in range shown	**Enter the lower limit of range** 1 **Enter the upper limit of range** 10 **The number of RSA numbers between 1 and 10 is 3**	0 1 2 3

Test Cases

#	Description	Input & Expected Output	Score
2	Typical case • Widest possible range of numbers • Accurate count of RSA numbers in range shown	**Enter the lower limit of range** 1 **Enter the upper limit of range** 1000 **The number of RSA numbers between 1 and 1000 is 292**	0 1
3	Boundary condition • 1000 is accepted for upper limit • Accurate count of RSA numbers in range shown	**Enter the lower limit of range** 1000 **Enter the upper limit of range** 1000 **The number of RSA numbers between 1000 and 1000 is 0**	0 1 2
4	Boundary condition • 1 is accepted for lower limit • Accurate count of RSA numbers in range shown	**Enter the lower limit of range** 1 **Enter the upper limit of range** 1 **The number of RSA numbers between 1 and 1 is 0**	0 1 2
5	Invalid input • 1001 or greater is rejected • Prompt is repeated as shown • Accurate count of RSA numbers in range shown	**Enter the lower limit of range** 990 **Enter the upper limit of range** 1001 **Enter the upper limit of range** 1002 **Enter the upper limit of range** 1000 **The number of RSA numbers between 990 and 1000 is 3**	0 1 2 3
6	Invalid input • 0 or lower is rejected for lower limit • Prompt is repeated as shown • Accurate count of RSA numbers in range shown	**Enter the lower limit of range** 0 **Enter the lower limit of range** −1 **Enter the lower limit of range** 1 **Enter the upper limit of range** 20 **The number of RSA numbers between 1 and 20 is 5**	0 1 2 3

Test Cases

#	Description	Input & Expected Output	Score
7	Invalid input • Invalid inputs rejected • Prompt is repeated as shown • Accurate count of RSA numbers in range shown	**Enter the lower limit of range** bananas **Enter the lower limit of range** **Enter the lower limit of range** 50.1 **Enter the lower limit of range** 50 **Enter the upper limit of range** bananas **Enter the upper limit of range** **Enter the upper limit of range** 50.1 **Enter the upper limit of range** 100 **The number of RSA numbers between 50 and 100 is 17**	0 1 2 3 4 5 6

Total score / 20