Oracle 1 : Address sanitizer

- The address sanitizer is used to detect memory corruption bugs such as buffer overflows, dangling pointers, and use-after-free errors. This helps insure memory integrity of the program and discovers situations where the program is accessing memory illegally quickly.

Oracle 2: Assertion statements

- Assertions are used to ensure that my error checks are operating correctly, and that bad data is not being passed into my program. In this situation I first check for an error and then before my following checks I assert that the data passed the previous check. I.E. I check that the read-in string only contains positive integers and then assert that each read-in number is a positive integer after that initial check.

Oracle 3: Random testing with expected values

- Random values are generated for squares, rectangles, legal points, illegal points, and illegal read-in strings. The output values are then compared against their expected output and error codes to determine that my classifying program is functioning correctly.