



Grade:

/ 10

Testing and Documenting Solutions

Name: _____

Answer the questions below in the spaces provided.

1. A computer program has been written to record the number of pins knocked down by a single ball in a game of ten pin bowling. If the user enters a number between 7 and 10 then the message 'Nice Throw, is displayed. If the user enters a number between 0 and 6 then the message 'Poor Throw, is displayed. Any other input will display 'Must be an integer between 0 and 10'. The input to the program will be an integer value between 0 and 10.

a) The Test Data Table below is incomplete.

Fill in the shaded areas of the table.

Type	Test Data	Expected Results
	8	Nice Throw
Exceptional	4.5	Must be an integer between 0 and 10
	10	
Extreme		Poor Throw
Exceptional	-	
	3	Poor Throw

(3)

b) The program should display an error message if the number of pins knocked down, which is entered using the keyboard is not in the range 0 to 10 inclusive.

```

Line 1 RECEIVE numberOfPins FROM (INTEGER) KEYBOARD
Line 2 WHILE numberOfPins < 0 AND numberOfPins > 10 DO
Line 3     SEND error message TO DISPLAY
Line 4 END WHILE
Line 5 RECEIVE numberOfPins FROM (INTEGER) KEYBOARD

```

There are two errors in the logic of the program design. Describe each of the two errors.

- _____
- _____

2. The pseudocode below shows the design for a simple program that will add two numbers together and then display the result.

Line 1 SET t TO 0

Line 2 RECEIVE n1 FROM (INTEGER) KEYBOARD

Line 3 RECEIVE n2 FROM (INTEGER) KEYBOARD

Line 4 SET t TO n1 + n2

Line 5 SEND [“The total of “, n1 ,” and “ , n2 , “is “ , t] TO DISPLAY

Line 6 IF t > 10 THEN

Line 7 SEND [“Wow what a result”] TO DISPLAY

Line 8 END IF

- a) Although correct, the readability of the program design is poor.

Describe two ways it could be improved.

1. _____

2. _____

(2)

- b) State the need for internal commentary in program code.

(2)

- c) All syntax and logic errors have been removed from the program. When the program is run the following message appears.

Error: ZeroDivisionError: int division by zero

State the *type* of error that has occurred?

(1)