N4/5 Computing Science – Software Design and Development

Due Date: Thu 9th November

Name

Homework 4

Read the pseudocode program below and answer the questions that follow.

RECEIVE house points FROM KEYBOARD

RECEIVE year group FROM KEYBOARD

IF house points >= 100 AND year goup ≠ “S6” THEN

 SEND “On Trip” TO DISPLAY

ELSE

 SEND “No Trip” TO DISPLAY

END IF

IF year group = “S6” THEN

 SEND “Have Exams” TO DISPLAY

END IF

1.

2.

3.

6.

5.

4.

7.

8.

9.

10

1. State the Input(s), Process(es) and Output(s) of the program above.

Input(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Process(es) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Output(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Name the 2 variables in the program and state their data types.

Variable Data Type

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What does Line 1 of the program do?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Explain the complex condition in Line 3.

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1. Describe the purpose of Lines 3 to 7.

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1. Explain the code for Line 4.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Explain the construct Lines 8 to 10.

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1. Briefly describe in your own words what the program does.

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1. A sixth year pupil has 540 house points, dry run through the program to explain what happens step by step. Make sure to clearly make reference to variables and their values.

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1. An S3 pupil has 100 house points, describe events if you trace through a program run manually.

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1. There has been a mistake as S5s also have exams at the time of the trip. Below re-write the 2 condition lines to fix this error.