Task 1: software design and development

Shake-Shake creates fruit-based drinks. They need a computer program that will tell their customers if selected fruits would make a better milkshake, smoothie or fruit juice.

Program description

Shake-Shake wants a computer program that allows users to enter the names of up to 6 fruits.

The user enters the name of each fruit they want in their drink. The program will validate each fruit name by checking it is at least 4 characters long.

The program then adds a mystery fruit, which it randomly selects from these options:

- apple
- banana
- blueberry
- kiwi
- mango
- orange
- peach
- pineapple
- raspberry
- strawberry

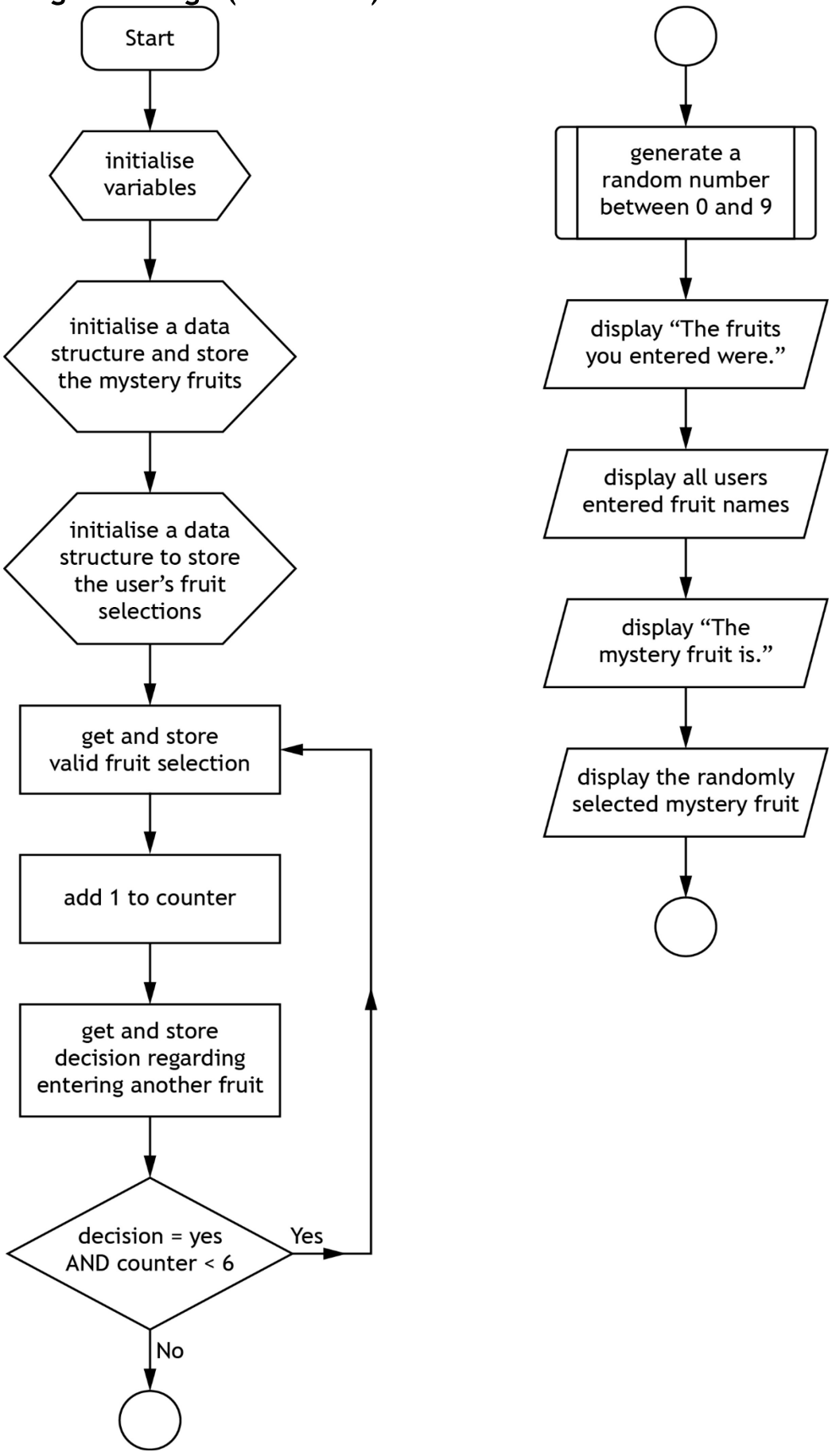
Once the user enters all their fruit options, the program adds the mystery fruit and uses the total number of fruits to determine whether it recommends a milkshake, smoothie or fruit juice.

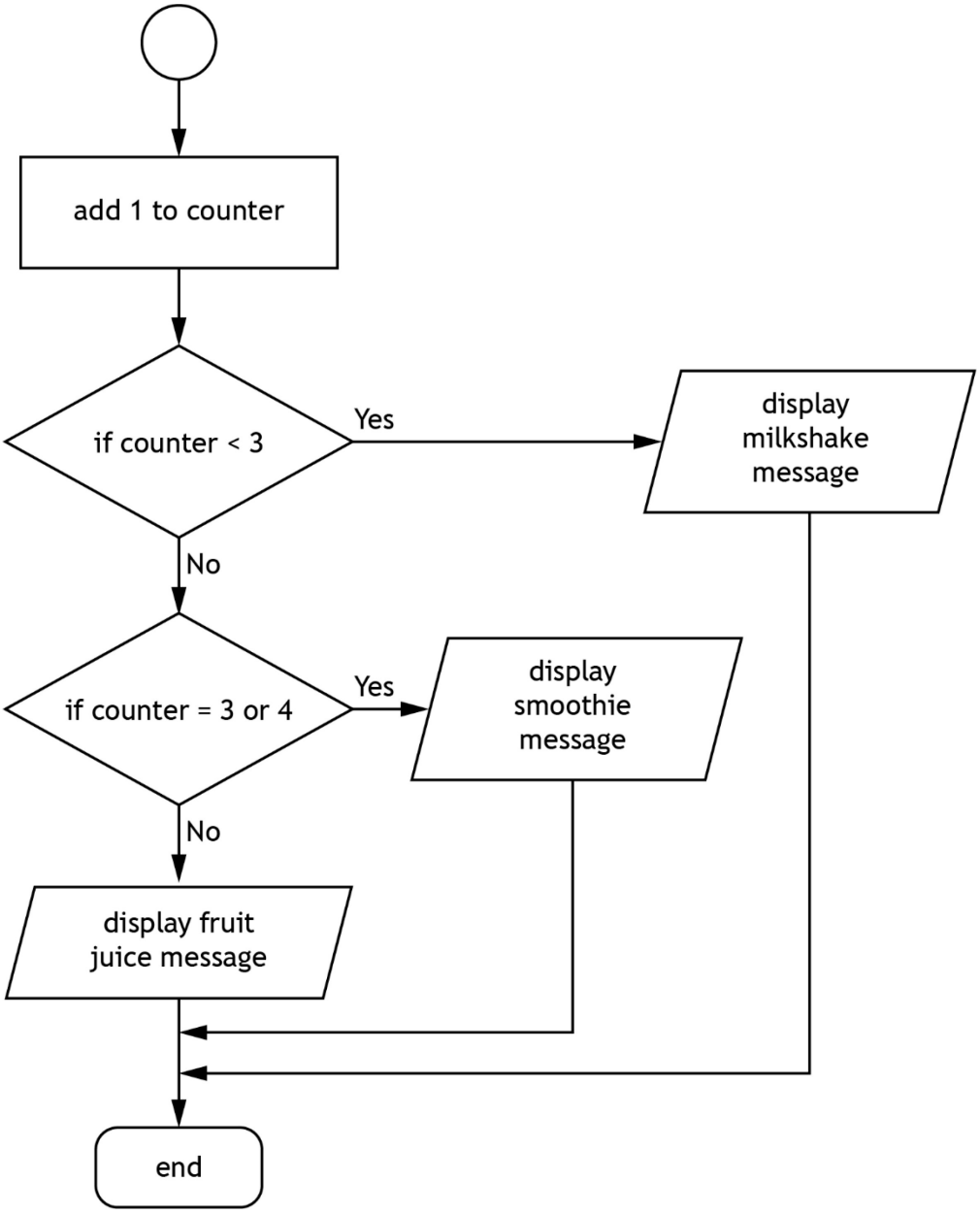
Shake-Shake recommends that less than 3 fruits should be a milkshake, 3 or 4 fruits should be a smoothie, and more than 4 fruits should be a fruit juice.

The program will output a summary of the user's fruit choice, including the mystery fruit, and a message advising what type of drink to make.

Task 1: software design and development (part B)

Program design (flowchart)




add 1 to counter
if counter < 3
Yes
display milkshake message
No
if counter = 3 or 4
Yes
display smoothie message
No
display fruit juice message
end

1c Using the program design, complete the expected output in the test table below. Use mango as the mystery fruit.

Type of test	User input	Expected output
Normal	Selection 1: **lemon** Selection 2: **pear** Selection 3: **peach** Selection 4: **orange**	

(2 marks)

1d Using the program description and the design, implement the program in a language of your choice.

Make sure the program matches the design given.

Run your completed program entering two fruits of your choice.

(15 marks)

Print evidence of your program code and your program output.

Candidate number_____

1e With reference to your code, evaluate your program by commenting on the following:

Use of efficient programming constructs	**(1 mark)**
Robustness of your program	**(1 mark)**
Readability of your code	**(1 mark)**

Candidate number_____