CAMBRIDGE ASSESSMENT INTERNATIONAL EDUCATION
Cambridge ICT Starters

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

INITIAL STEPS **4272/B**

Stage 2: Starting Programming **For moderation from 2019**

Maximum time allowed: 1 hour

Additional Materials: DrawSquare.sb2
Track.sb2
MyPrograms_4272B.doc

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

For Tutor Use		
Starting Programming		
Candidate was able to:	**Pass/ Merit**	**Please tick**
Plan a short sequence of instructions (an algorithm) to achieve a specified objective.	P	
Create a program as a sequence of instructions to achieve a specified objective.	P	
Predict what the sprite will do when given a short program as a sequence of instructions.	P	
Create a program that moves a sprite at least five times and turns it though angles of other than 90 or 180 degrees, to reach a specific target.	M	
Correct (debug) a short program containing one error.	M	
Tutors also need to complete and sign the Learning Objectives Record Sheet for each Candidate.		

This document has **8** pages. Blank pages are indicated.

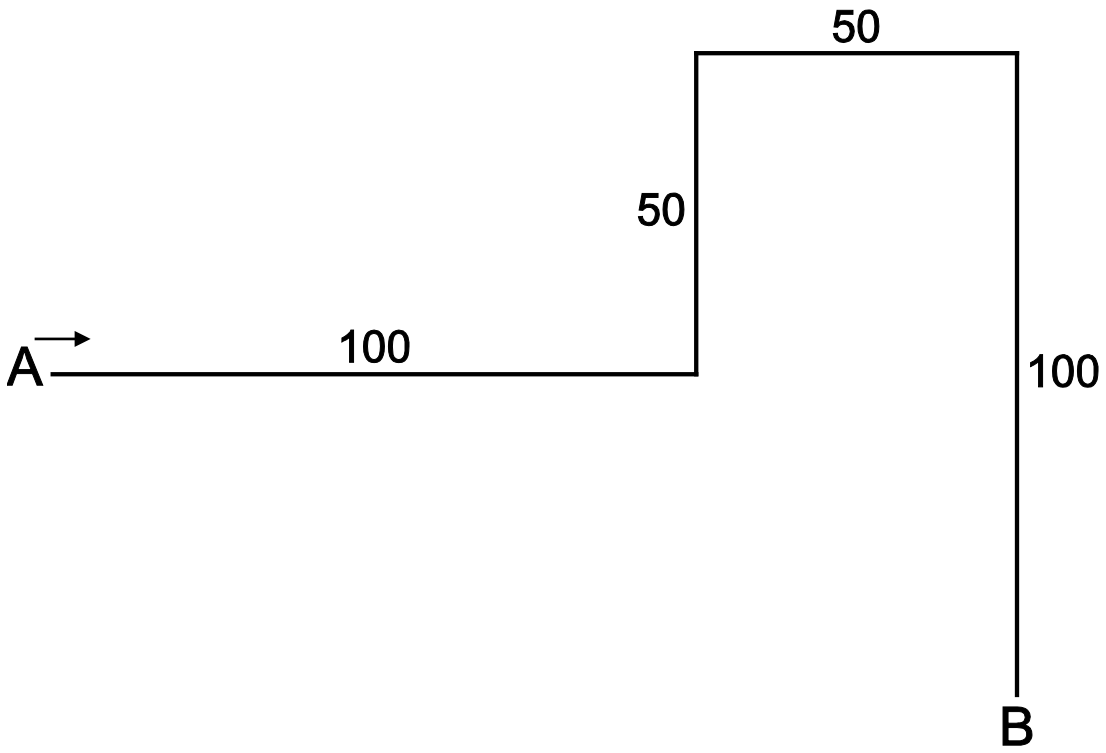
Centre number		Candidate number		Candidate name	

Initial Steps – Stage 2 – Starting Programming

Section A

A sprite follows the path shown on the diagram below, to move from point **A** to point **B**.

The diagram shows the distances in steps.

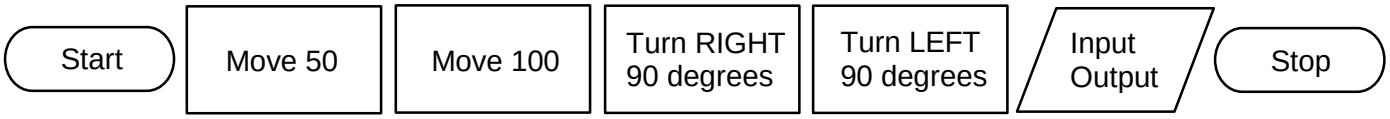


Centre number		Candidate number		Candidate name	

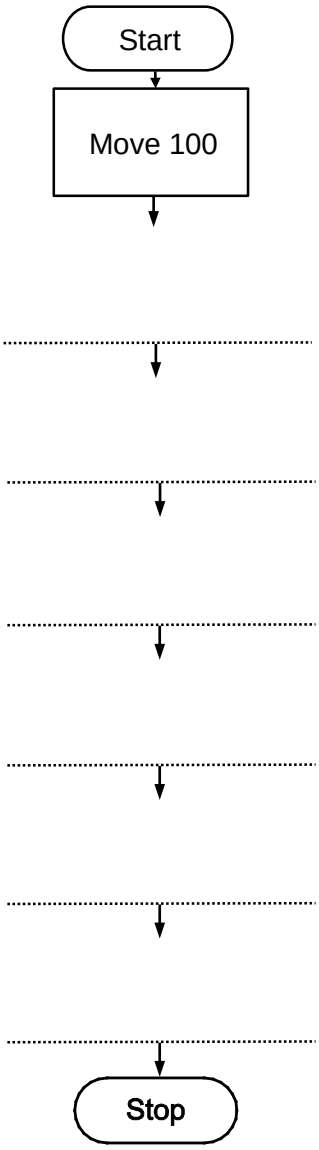
Initial Steps – Stage 2 – Starting Programming

1 A flowchart is used to plan out the sequence of instructions that will move the sprite as shown.

Complete the flowchart using these symbols.



Not all symbols need to be used.
Some symbols can be used more than once.



(LO1)

Centre number		Candidate number		Candidate name	

Initial Steps – Stage 2 – Starting Programming

2 *Open* Scratch.

3 Create a program in Scratch which implements the algorithm from question **1**. The algorithm should run when the *space key* is pressed.

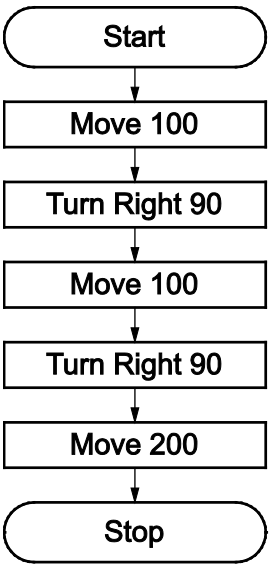
4 When your program is complete, take a screenshot (print screen) showing your code and output. *Paste* your screenshot into **Box 1** of **MyPrograms_4272B.doc**

(LO2)

Centre number		Candidate number		Candidate name	

Initial Steps – Stage 2 – Starting Programming

5 The algorithm shown below moves a sprite around the screen.



Write a prediction of the actions the sprite will take when following this sequence of instructions.

(LO3)

Centre number		Candidate number		Candidate name	

Initial Steps – Stage 2 – Starting Programming

Section B

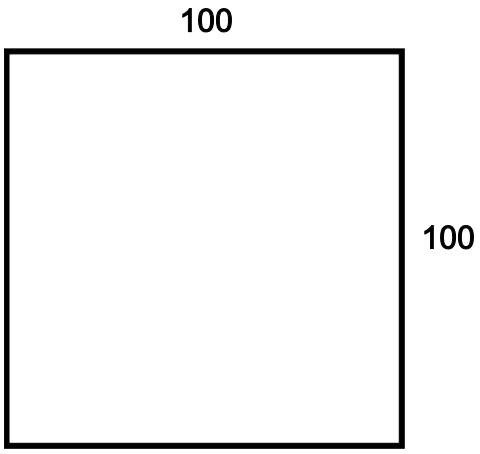
1 *Open* the program file **Track.sb2** in Scratch.

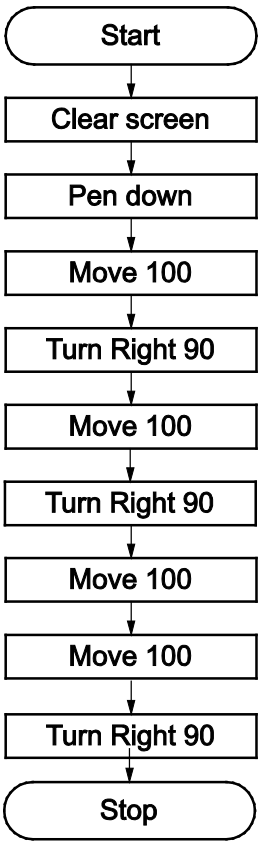
2 Create a program which moves the sprite along the path, from the **START** point to the **END** point.

3 When your program is complete, take a screenshot (print screen) showing your code and output. *Paste* your screenshot into **Box 2** of **MyPrograms_4272B.doc**

(LO4)

4 The program shown below is intended to draw a square where each side is 100 steps. The program contains **one** error.





(a) Identify the error in the program.

Centre number		Candidate number		Candidate name	

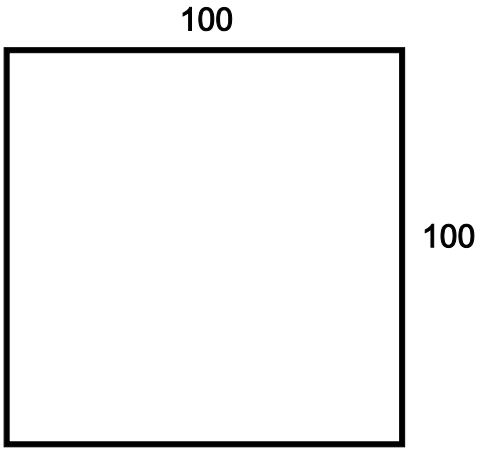
Initial Steps – Stage 2 – Starting Programming

(b) Explain how the program can be corrected so that the square is drawn.

---

5 *Open* the program file **DrawSquare.sb2** in Scratch.

6 Correct the program so that it produces the square.



7 When your program is complete, take a screenshot (print screen) showing your code and output. *Paste* your screenshot into **Box 3** of **MyPrograms_4272B.doc**

(LO5)

BLANK PAGE