# Software Design and Development

## HSC Hub

#### Student workbook

## Overview

This resource is to accompany the HSC Hub Software Design and Development video presentation.

The focus of this presentation is algorithms and desk checking.

These are key concepts in the SDD course and form major components of the HSC examination paper.

This resource should be used in conjunction with:

[Software Design and Development Stage 6 Syllabus (2010)](https://educationstandards.nsw.edu.au/wps/wcm/connect/75c791ab-b656-4548-a87c-d4455696c75b/Software-Design-and-Development-Amended-Syllabus-2011.doc?MOD=AJPERES&CVID=)

[Software Design and Development Stage 6 Syllabus (2010): Course specifications](https://educationstandards.nsw.edu.au/wps/wcm/connect/44325629-51c6-4330-8bf8-662d5cfbe5fb/software-design-development-course-specs.pdf?MOD=AJPERES&CVID=)

[Software Design and Development HSC exam paper 2019](https://educationstandards.nsw.edu.au/wps/wcm/connect/96813e25-c129-46e1-ab5b-e3dee3094966/2019-hsc-software-design-and-development.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-96813e25-c129-46e1-ab5b-e3dee3094966-mUfwSEF)

[Software Design and Development HSC exam marking guidelines 2019](https://educationstandards.nsw.edu.au/wps/wcm/connect/3a414d3d-55c5-436e-899c-8a5b384b047e/2019-hsc-software-design-and-development-mg.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-3a414d3d-55c5-436e-899c-8a5b384b047e-mXEEZbW)

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## Activities

Complete the activities in the space provided.

| Rewrite the following pre-test loop as a post-test loop:WHILE count < 10 dothisstuffENDWHILE |
| --- |

| Which of these two conditions are true when X= 7:1. X > 5 OR Y = 8
2. X > 5 AND Y = 8

Explain your answer: |
| --- |

3.

| Annotate the following code from Question 10 of the SDD 2019 HSC examination with the 3 steps required to change it from a post -test loop to a pre-test loop while maintaining the same logic.REPEAT  WhateverUNTIL X>5 OR Y=8 |
| --- |

4.

| Use the same steps from the question above to convert the following pre-test loop into a post-test loop while maintaining the same logic.WHILE A<= 10 AND B <> 12 domyworkformeENDWHILE |
| --- |

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| Desk check the following algorithm using the test data (1, 2, 3, 4, 6, 6)Complete table below:1. REPEAT
2. Get X
3. Get Y
4. temp = X
5. X = Y
6. Y = temp
7. Display X, Y
8. UNTIL X = Y
 |
| --- |

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| --- | --- | --- | --- |
| X | Y | temp | Output |
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| Desk check the following algorithm from Question 24 a of the 2019 HSCUse the test data Y = 2 to complete table below:1 X = 12 Get Y3 REPEAT4 Z = Y5 IF X < 7 THEN6 X = X + 17 IF X < 8 THEN8 Print X \* Z9 END IF10 END IF11 X = X + 112 UNTIL X > 813 Print “Done” |
| --- |

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| --- | --- | --- | --- |
| X | Y | Z | Output |
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