Authentication record form: VCE Algorithmics (HESS) 2024

Unit 3 School-assessed Task

This form must be completed by the class teacher. It provides a record of the monitoring of the student’s work in progress for authentication purposes. This form is to be retained by the school and filed.   
It may be collected by the VCAA as part of the School-based Assessment Audit.

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Student name …………………………………………………………….. Student No

School …………………………………………………………………… Teacher: ……………………………………..…………………………………………….

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| **Component of School-assessed Task** | **Date observed and submitted** | **Teacher comments** | **Teacher’s initials** | **Student’s initials** |
| **Observation 1: Specifying and modelling the problem**  **(Criterion 1) Unit 3 Outcome 3 SAT – Part 1**  The student specifies the problem and models it using ADTs. | Observed | Observation of the problem specification and modelling process. |  |  |
| **Observation 2: Designing an algorithmic solution**  **(Criterion 2) Unit 3 Outcome 3 SAT – Part 1**  The student considers a range of approaches and designs an algorithmic solution to the problem. | Observed | Observation of the design of an algorithmic solution. |  |  |
| **Observation 3: Communicating the algorithmic solution**  **(Criterion 3) Unit 3 Outcome 3 SAT – Part 1**  The student communicates their solution in pseudocode. | Observed | Observation of pseudocode. |  |  |
| **Observation 4: Solution justification**  **(Criterion 4) Unit 3 Outcome 3 SAT – Part 1**  The student justifies the suitability of their solution. | Observed | Observation of the justification of the solution. |  |  |
| **Submission of Unit 3 Outcome 3 School-assessed Task**  The student submits the Unit 3 Outcome 3 SAT – Part 1 for assessment. | Submitted | Submission of Unit 3 Outcome 3 SAT – Part 1. |  |  |

I declare that all resource materials and assistance used have been acknowledged and that all unacknowledged work is my own.

Student signature ……………………………………………….,,,,,… Date …………………………………

Authentication record form: VCE Algorithmics (HESS) 2024

Unit 4 School-assessed Task

This form must be completed by the class teacher. It provides a record of the monitoring of the student’s work in progress for authentication purposes. This form is to be retained by the school and filed.   
It may be collected by the VCAA as part of the School-based Assessment Audit.

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Student name …………………………………………………………….. Student No

School …………………………………………………………………… Teacher: ……………………………………..…………………………………………….

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| **Component of School-assessed Task** | **Date observed and submitted** | **Teacher comments** | **Teacher’s initials** | **Student’s initials** |
| **Observation 5: Determining time complexity**  **(Criterion 5) Unit 4 Outcome 1 SAT – Part 2**  The student determines the time complexty of their Unit 3 Outcome 3 solution. | Observed | Obervation of analysis of time complexity of their initial solution |  |  |
| **Observation 6: Time complexity implications**  **(Criterion 6) Unit 4 Outcome 1 SAT – Part 2**  The student explains the consequences of the time complexity of their Unit 3 Outcome 3 solution. | Observed | Explanation of consequences of the time complexity of their initial solution. |  |  |
| **Observation 7: Design of an improved algorithmic solution**  **(Criterion 8) Unit 4 Outcome 2 SAT – Part 3**  The student designs an improved algorithmic solution. | Observed | Observation of the documented design process and solution. |  |  |
| **Observation 8: Algorithmic problem-solving**  **(Criterion 9) Unit 4 Outcome 2 SAT – Part 3**  The quality of the student’s improved solution. | Observed | Observation of the quality of the improved design. |  |  |
| **Observation 9: Further formal analysis**  **(Criterion 5) Unit 4 Outcome 1 SAT – Part 2**  The student analyses the time complexity of their improved algorithmic solution. | Observed | Observation of analysis of the time complexity of an improved solution. |  |  |
| **Observation 10: Comparison of solutions**  **(Criteria 7 & 10) Unit 4 Outcomes 1 and 2 SAT – Parts 2 and 3**  The student compares the suitability of their solutions. | Observed | Observation of comparison the initial and improved solutions. |  |  |
| **Submission of Unit 4 Outcomes 1 and 2 School-assessed Task**  The student submits the Unit 4 Outcomes 1 and 2 SAT – Parts 2 and 3 for assessment. | Submitted | Submission of Unit 4 Outcomes 1 and 2 SAT – Parts 2 and 3. |  |  |

I declare that all resource materials and assistance used have been acknowledged and that all unacknowledged work is my own.

Student signature ……………………………………………………….. Date …………………………………

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| **2024** | Victorian Certificate of Education  Algorithmics (HESS) Assessment Sheet  School-assessed Task | | | | | | | | | | | STUDENT NAME | | | | | | | | | | |
| This assessment sheet will assist teachers to determine their score for each student. Teachers need to make judgments on the student’s performance for each criterion. Teachers will be required to choose one number from 0–10 to indicate how the student performed on each criterion with comments, as appropriate. Teachers then add the subtotals to determine the total score. | | | | | | | | | | | | student number | |  |  |  |  |  |  |  |  |  |
| assessing school number | | | | | |  |  |  |  |  |
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| **Criteria for the award of grades** | | | Not Shown (0) | Very Low (1–2) | Low  (3–4) | | | Med  (5–6) | High  (7–8) | | Very High (9–10) | **Performance on Criteria: Teacher’s Comments**  You may wish to comment on aspects of the student’s work that led to your assessment. | | | | | | | | | | |
| **The extent to which the student demonstrates:** | | |  |  |  | | |  |  | |  |
| 1. Skills in specifying a problem and modelling its key features | | |  |  |  | | |  |  | |  |
| 2. Skills in the design of an algorithm to solve a real-world/applied problem. | | |  |  |  | | |  |  | |  |
| 3. Skills in the communication of an algorithmic solution to a real-world/applied problem. | | |  |  |  | | |  |  | |  |
| 4. Skills in the justification of an algorithmic solution to a real-word/applied problem. | | |  |  |  | | |  |  | |  |
| 5. Skills in determining the time complexity of algorithms. | | |  |  |  | | |  |  | |  |
| 6. Understanding of the consequences of an algorithm’s time complexity on its real-world application. | | |  |  |  | | |  |  | |  |
| 7. Skills in the comparison of the time complexities of algorithmic solutions to a real-world/applied problem. | | |  |  |  | | |  |  | |  |
| 8. Skills in the design of an improved data model and algorithm combination. | | |  |  |  | | |  |  | |  |
| 9. Skills in advanced algorithmic problem solving. | | |  |  |  | | |  |  | |  |
| 10. Skills in the comparison of algorithmic solutions in terms of their coherence and fitness for purpose. | | |  |  |  | | |  |  | |  |
| If a student does not submit the School-assessed Task  at all, N/A should be entered in the total score box. | | **SUBTOTALS** |  |  | |  |  | | |  |  | |  | | | | | | | | | |

**TOTAL SCORE**