Validation, Verification & Testing

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| **Algorithm A** | |  | **Algorithm B** | |
| 01  02  03  04  05  06  07 | Mobile ← INPUT  IF LEN(Mobile) <> 11  THEN  OUTPUT "Number Invalid"  ELSE  OUTPUT "Number Valid"  ENDIF |  | 01  02  03  04  05  06  07 | Age ← INPUT  IF age >= 11 AND age <= 18  THEN  OUTPUT "Within range"  ELSE  OUTPUT "Out of range"  ENDIF |

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| **Algorithm C** | |
| 01  02  03  04  05  06  07  08 | TestResult ← INPUT  ResultConfirm ← INPUT  IF TestResult = ResultConfirm  THEN  OUTPUT "Result valid"  ELSE  OUTPUT "Please re-enter"  ENDIF |

1. Which of the example algorithms is an example of verification? (1)

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2. Which of the example algorithms is an example of range check validation? (1)

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3. Which of the example algorithms is an example of length check validation? (1)

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4. Name one other type of validation. (1)

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5. Complete this test table for Algorithm A. (1)

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| **Description** | **Test Type** | **Test Data** | **Expected Outcome** |
| Test a value longer than the expected length. | Erroneous | 070000000000000 | “Number Invalid” |
|  | Normal |  |  |

6. Complete this test table for Algorithm B. (3)

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| **Description** | **Test Type** | **Test Data** | **Expected Outcome** |
|  | Boundary |  |  |
|  | Erroneous |  |  |
|  | Normal |  |  |

7. A weather station records daily temperature readings in London, no reading has ever gone above 40oC or below -20oC. Design a validation algorithm to check the temperature readings that are entered. (4)

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8. Complete this test table for algorithm you designed in the previous question. (3)

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| **Description** | **Test Type** | **Test Data** | **Expected Outcome** |
|  | Boundary |  |  |
|  | Erroneous |  |  |
|  | Normal |  |  |