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| Software testing & Inspection |
| Functional testing with equivalence classes |
| CS4004 |

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| Equivalence Class # | Description | Valid or Invalid | Example |
| 1 | Unit of Measure=C|P|S | Valid | C |
| 2 | Unit of Measure!=C|P|S | Invalid | D |
|  |  |  |  |
| 3 | Metric size=g|ml | Valid | ml |
| 4 | Metric size!= g|ml | Invalid | Power |
|  |  |  |  |
| 5 | Qty less than 1 Size les than 1 | Invalid | 0 |
| 6 | Qty in the range 1 to 20 | Valid | 14 |
| 7 | Qty greater than 20 | Invalid | I7324324 |
|  |  |  |  |
| 8 | Size in the range 1 to 200 | Valid | 32 |
| 9 | Size greater 200 | Invalid | 132 |
|  |  |  |  |
| 10 | Single comma separates each entry in a list of exactly 5 items | Valid | 1.0, 1.0, 1.0, 1.0, 0.2 |
| 11 | A comma does not separate each entry in the list | Invalid | 1.0 1.0, 1.0 1.0, 0.2 |
|  |  |  |  |
| 12 | IItem0/1/2/3/4 is the decimal number rounded to one decimal place | Valid | 1.0, 1.0, 1.0, 1.0, 0.2 |
|  |  |  |  |
| 13 | IItem0/1/2/3/4 is not the decimal number rounded to one decimal place | Invalid | 1.11, 3.423, 3.4237, 1.32, 0.435 |
|  |  |  |  |
| 14 | Item0/1 in nutrient list[Protein/Carbohydrate] is in the range 1.0 to 10.0 | Valid | 4.6 |
| 15 | Item0/1 in nutrient list[Protein/Carbohydrate] is less than 1.0 | Invalid | 0 |
| 16 | Item0/1 in nutrient list[Protein/Carbohydrate] is greater than 10.0 | Invalid | 12 |
|  |  |  |  |
| 17 | Item2/3/4 in nutrient list[Fat/Fibre/Sodium] is greater than 0 | Valid | 1.0 |
| 18 | Item2/3/4 in nutrient list[Fat/Fibre/Sodium] is less than 0 | Invalid | 0 |
|  |  |  |  |
| 19 | Item2 in nutrient list[Fat] is in the range 0.1 to 4.9 | Valid | 3.4 |
|  |  |  |  |
| 20 | Item2 in nutrient list[Fat] is greater than 4.9 | Invalid | 5.4 |
|  |  |  |  |
| 21 | Item3 in nutrient list[Fibre] is in the range 0.1 to 2.9 | Valid | 1.4 |
|  |  |  |  |
| 22 | Item3 in nutrient list[Fibre] is greater than 2.9 | Invalid | 8.5 |
|  |  |  |  |
| 23 | Item4 in nutrient list[Sodium] is in the range 0.1 to 0.4 | Valid | 0.2 |
|  |  |  |  |
| 24 | Item4 in nutrient list[Sodium] is greater than 0.4 | Invalid | 0.5 |

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| Test Case# | Test Case Values | Valid or Invalid | Classes Covered | Expected Outcome |
| 1 | 1 C 200 g 10.0, 1.0, 0.1, 0.1, 0.1 | Valid | 1, 3, 6(LB), 8(UB),  10, 12, 14(UB),(LB), 17(LB), 19, 21, 23 | Serving Size:  1 CUP (200g) Protein 10.0g  Carbohydrate 1.0g  Fat 0.1g  Fibre 0.1g  Sodium 0.1g |
|  |  |  |  |  |
| 2 | 20 P 1 ml 1.0, 10.0, 4.9, 2.9, 0.4 | Valid | 1, 3, 6(UB), 8(LB),  10, 12, 14(LB),(UB), 17, 19(UB), 21(UB), 23(UB) | Serving Size:  20 Pieces (200ml) Protein 1.0g  Carbohydrate 10.0g  Fat 4.9g  Fibre 2.9g  Sodium 0.4g |
|  |  |  |  |  |
| 3 | D | Invalid | 2 | Error Unit of Measure is incorrect |
| 4 | Power | Invalid | 4 | Error metric unit incorrect |
| 5 | 0 | Invalid | 5 | Error Qty too small(JBB) |
| 6 | 21 | Invalid | 7 | Error Qty too large(JAB) |
| 7 | 0 | Invalid | 8 | Error size too small(JBB) |
| 8 | 201 | Invalid | 10 | Error size too large(JAB) |
| 9 | 1.0 1.0, 1.0 1.0, 0.2 | Invalid | 12 | Error nutrient values incorrectly formatted |
| 10 | 0 | Invalid | 14 | Error nutrient value too small(JBB) |
| 11 | 10.1 | Invalid | 15 | Error nutrient value too large JAB |
| 12 | 0 | Invalid | 17 | Error nutrient value too small(JBB) |
| 13 | 10.1 | Invalid | 18 | Error nutrient value too large JAB |
| 14 | 0 | Invalid | 20 | Error nutrient value too small(JBB) |
| 15 | 5.0 | Invalid | 21 | Error nutrient value too large JAB |
| 16 | 0 | Invalid | 23 | Error nutrient value too small(JBB) |
| 17 | 3.0 | Invalid | 24 | Error nutrient value too large JAB |
| 18 | 0 | Invalid | 26 | Error nutrient value too small(JBB) |
| 19 | 0.5 | Invalid | 27 | Error nutrient value too large JAB |