Lab 6 – Combinatorial Testing

You are assigned to perform acceptance testing for an Order Options module menu as part of a large pizza ordering system. The Order Options module menu comprise of four main selections (see Figure). Here, the user has the options to ‘select’ or ‘unselect’ vegetarian, and spicy as parts of the orders through check boxes. The default values for all the check boxes are ‘unselect’. Additionally, the user can also select 2 modes of delivery: Eat In or Take Away respectively through a combo box. Additionally, the user can also select the payment mode: ‘Credit Card’ or ‘Cash’. The default values for both combo boxes are highlighted.



1. List the parameters and values to be considered for Order Options Module
2. Derive all possible combinations of parameters and values at full interaction strength t=4 for Order Options Module
3. By considering the interaction strength t=3, minimize the test set using random selection.
4. Download a tool called Jenny and re-do part b) and c).

a)Parameter

Vegetarian = {select a1, unselect a2}

Spicy = {select b1, unselect b2}

Delivery= {Eat In c1, Take Away c2}

Payment = {Credit d1 Card d2}

b) Full interaction strength t=4

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Base Values** | **Input Variable** | | | |
| **A** | **B** | **C** | **D** |
| a1 | b1 | c1 | d1 |
| a2 | b2 | c2 | d2 |
| **Exhaustive Combinations** | a1 | b1 | c1 | d1 |
| a1 | b1 | c1 | d2 |
| a1 | b1 | c2 | d1 |
| a1 | b1 | c2 | d2 |
| a1 | b2 | c1 | d1 |
| a1 | b2 | c1 | d2 |
| a1 | b2 | c2 | d1 |
| a1 | b2 | c2 | d2 |
| a2 | b1 | c1 | d1 |
| a2 | b1 | c1 | d2 |
| a2 | b1 | c2 | d1 |
| a2 | b1 | c2 | d2 |
| a2 | b2 | c1 | d1 |
| a2 | b2 | c1 | d2 |
| a2 | b2 | c2 | d1 |
| a2 | b2 | c2 | d2 |

c) Interaction strength t=3

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Base Values** | **Input Variable** | | | |
| **A** | **B** | **C** | **D** |
| a1 | b1 | c1 | d1 |
| a2 | b2 | c2 | d2 |
| **Combinatorial values**  **ABC for t=3** | a1 | b1 | c1 | d1 |
| a1 | b1 | c2 | d2 |
| a1 | b2 | c1 | d1 |
| a1 | b2 | c2 | d2 |
| a2 | b1 | c2 | d1 |
| a2 | b1 | c1 | d2 |
| a2 | b2 | c1 | d1 |
| a2 | b2 | c2 | d2 |

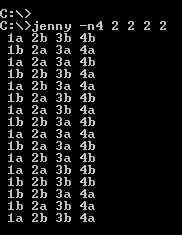
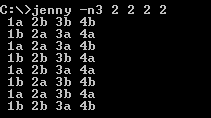
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Base Values** | **Input Variable** | | | |
| **A** | **B** | **C** | **D** |
| a1 | b1 | c1 | d1 |
| a2 | b2 | c2 | d2 |
| **Combinatorial values**  **ABD for t=3** | a1 | b1 | c1 | d1 |
| a1 | b1 | c2 | d2 |
| a1 | b2 | c1 | d1 |
| a1 | b2 | c2 | d2 |
| a2 | b1 | c1 | d1 |
| a2 | b1 | c2 | d2 |
| a2 | b2 | c1 | d1 |
| a2 | b2 | c2 | d2 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Base Values** | **Input Variable** | | | |
| **A** | **B** | **C** | **D** |
| a1 | b1 | c1 | d1 |
| a2 | b2 | c2 | d2 |
| **Combinatorial values**  **ACD for t=3** | a1 | b1 | c1 | d1 |
| a1 | b2 | c1 | d2 |
| a1 | b1 | c2 | d1 |
| a1 | b2 | c2 | d2 |
| a2 | b1 | c1 | d1 |
| a2 | b2 | c1 | d2 |
| a2 | b1 | c2 | d1 |
| a2 | b2 | c2 | d2 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Base Values** | **Input Variable** | | | |
| **A** | **B** | **C** | **D** |
| a1 | b1 | c1 | d1 |
| a2 | b2 | c2 | d2 |
| **Combinatorial values**  **BCD for t=3** | a1 | b1 | c1 | d1 |
| a2 | b1 | c1 | d2 |
| a1 | b1 | c2 | d1 |
| a2 | b1 | c2 | d2 |
| a1 | b2 | c1 | d1 |
| a2 | b2 | c1 | d2 |
| a1 | b2 | c2 | d1 |
| a2 | b2 | c2 | d2 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Base Values** | **Input Variable** | | | |
| **A** | **B** | **C** | **D** |
| a1 | b1 | c1 | d1 |
| a2 | b2 | c2 | d2 |
| **Combinatorial values for t=3** | a1 | b1 | c1 | d1 |
| a1 | b1 | c2 | d2 |
| a1 | b2 | c1 | d1 |
| a1 | b2 | c2 | d2 |
| a2 | b1 | c2 | d1 |
| a2 | b1 | c1 | d2 |
| a2 | b2 | c1 | d1 |
| a2 | b2 | c2 | d2 |
| a1 | b1 | c2 | d2 |
| a1 | b2 | c1 | d1 |
| a1 | b2 | c2 | d2 |
| a2 | b1 | c2 | d2 |

d) Download a tool called Jenny and re-do part b) and c).

  
 Full interaction strength t=4 Interaction strength t=3