# **Test Design techniques Advanced**

### **Part I: Equivalence classes**

| № | Equivalence class | Test scenario description | Expected result |
| --- | --- | --- | --- |
| 1  (State) | Negative: short input (less than 2 characters) | Input: 1 Latin capital character | Rejected: input is too short |
|  | Positive: normal input for the State with 2 Latin capital characters | Input: 2 Latin capital characters | Input accepted |
|  | Negative: long input (3+ characters) | Input: 5 Latin capital characters | Rejected: input is too long |
| 2  (Last Name) | Negative: empty input  (0 characters) | Input: 0 characters | Rejected: input is too short |
|  | Positive: normal input (1-15 characters) | Input: 8 Latin, 1 apostrophe | Input accepted |
|  | Negative: long input (16+ characters) | Input: 15 Latin, 1 apostrophe, 2 spaces | Rejected: Input is too long |
| 3 (User ID) | Negative: short input (0-7 characters) | Input: 3 Latin, 1 number, 1 special character | Rejected: Input is too short |
|  | Positive: normal input 8 characters including at least 2 of (numeric, special, nonprinting) | Input: 6 Latin, 1 number, 1 special character | Input accepted |
|  | Negative: input 8 characters including 1 of (numeric, special, nonprinting) | Input: 7 Latin, 1 nonprinting | Rejected: Input doen’t have enought characters from the category (numeric, special, nonprinting) |
|  | Negative: long input (9+ characters) including at least 2 of (numeric, special, nonprinting) | Input: 9 Latin, 1 number, 1 special character | Rejected: Input is too long |
| 4 (Student ID) | Negative: short input (0-7 characters) with not enough numbers | Input: 2 characters from the list of Valid home campus abbreviations (AN, LC, RW, SM, TA, WE, WN), 4 numbers | Rejected: input is too short. The last unique digit number has to contain 6 numbers |
|  | Negative: short input (0-7 characters) with invalid campus abbreviation, not enough Latin characters | Input: 1 Latin Capital character, 6 numbers | Rejected: input is too short. there is no such campus abbreviation |
|  | Positive: normal input 8 characters (2 characters from the list of Valid home campus abbreviations (AN, LC, RW, SM, TA, WE, WN), 6-digit number | Input: 2 Latin Capital characters from the list, 6 numbers | Input accepted |
|  | Negative: input 8 characters, 2 Latin capital letters non of a list, 6-digit number | Input: 2 Latin Capital characters, 6 numbers | Rejected: there is no such campus abbreviation |
|  | Negative: long input (9+ characters) with extra numbers | Input: 2 characters from the list of Valid home campus abbreviations (AN, LC, RW, SM, TA, WE, WN), 8-digit number | Rejected: input is too long. |

### **Part II: Boundary values**

| № | Boundary value | Test scenario description | Expected result |
| --- | --- | --- | --- |
| 1 (ZIP Code) | 1st class: Input 4 characters | Input: 4 numbers (the fist one is not 00) | Rejected: Input is too short |
|  | 2nd class: Input 5 characters | Input: 5 numbers (the fist one is not 00) | Input accepted |
|  | 3rd class: Input 6 characters | Input: 6 numbers (the fist one is not 00) | Rejected: Input is too long |
|  | The lowest valid input | Input: 01001 | Input accepted |
|  | The highest valid input | Input: 90647 | Input accepted |
| 2 (Last Name) | 1st class: empty input | Input: 0 characters | Rejected: Input is too short |
|  | 2ns class: Input 1 character | Input: 1 alphabetic character | Input accepted |
|  | 3rd class: Input 15 characters | Input: 13 alphabetic character, 1 hyphen, 1 space | Input accepted |
|  | 4th class: Inuput 16 characters | Input: 14 alphabetic character, 1 number,1 period | Rejected: Input is too long |
| 3 (User ID) | 1st class: Input 7 characters | Input: 5 alphabetic character, 1 number, 1 special character | Rejected: Input is too short |
|  | 2nd class: Input 8 characters | Input: 5 alphabetic characters, 2 numbers, 1 nonprinting | Input accepted |
|  | 3rd class: Input 9 characters | Input: 6 alphabetic characters, 1 number, 1 nonprinting, 1 special character | Rejected: Input is too long |
| 4 (Course ID) | 1st A class: Input 8 characters ( not enough alphabetic characters) | Input: 2 alphabetic characters from the list (PHY,EGR,LAN,CHM, MAT,PED,SOC), 6 numbers | Rejected: Input is too short |
|  | 2nd A class: Input 9 characters, normal input | Input: 3 alphabetic characters from the list (PHY,EGR,LAN,CHM, MAT,PED,SOC), 6 numbers | Input accepted |
|  | 3rd A class: Input 10 characters, ( too many latin characters) | Input: 3 alphabetic characters from the list (PHY,EGR,LAN,CHM, MAT,PED,SOC), 1 extra latin character, 6 numbers | Rejected: Input is too long |