Variant 4

Equivalence partitioning and Boundary value analysis

In a system designed for postal services' payment: Letters up to 100g are called as ‘light letters’. Postal rates for sending the light letters up to 10g are $25. The next 40g should be played by $35. Each next 25g up to 100g should be played by an extra $10.

Partitions should be designed for “grams”.

Build equivalence classes (partitions) based on given information

Stand Out boundary values

Cover requirements above by tests (write test cases’ names and objectives) based on equivalence partitioning and boundary value analysis

Decision tables

If you are a new customer of Apple store and you made a purchase on $500 and more, you will get a voucher on 10% discount for today’s purchase. If your purchase worth is less than $500, then you will get a voucher on 5% discount for today’s purchase. If you are a gold customer of Apple store, then you will have 30% discount on all store assortments.

Build decision table based on given information

State transition

To open a visa you need to pass a list of steps in standard procedure. At first you need to get consultation or read some materials about documents which should be provided. Then you should prepare these documents according to templates and give them to tour agency for verification. If there are mistakes in the documents, they should be re-developed. If documents are prepared correctly, then you should pay $80 for consular fee and pass interview with consul. If embassy accepts documents and you passed interview successfully, then you will get visa. If not, then you will need to try again.

Build state transition diagram based on given information

Equivalence partitioning

|  | Invalid | Valid for 25$ | Valid for 35$ | Valid for 45$ | Valid for 55$ | Invalid |
| --- | --- | --- | --- | --- | --- | --- |
| Class | <= “0g” | 1g-10g | 11g-50g | 51g-75g | 76g-100g | >100g |
| EP | -2 | 3 | 15 | 67 | 82 | 120 |

Test conditions

| # | Condition | Expected Result |
| --- | --- | --- |
| 1 | Put value '-2g' into input field | Error message appears "You have entered an incorrect weight of the parcel". |
| 2 | Put value '3g' into input field | Postal rates for sending the light letter is 25$ |
| 3 | Put value '15g' into input field | Postal rates for sending the light letter is 35$ |
| 4 | Put value '67g' into input field | Postal rates for sending the light letter is 45$ |
| 5 | Put value '82g' into input field | Postal rates for sending the light letter is 55$ |
| 6 | Put value '120g' into input field | Error message appears "You have entered an incorrect weight of the parcel". |
| 7 | Put value ‘-+=#$%^’ into input field | Error message appears "You have entered an incorrect weight of the parcel". |

Boundary value analysis

|  | Invalid | Valid for 25$ | Valid for 35$ | Valid for 45$ | Valid for 55$ | Invalid |
| --- | --- | --- | --- | --- | --- | --- |
| Class | <= “0g” | 1g-10g | 11g-50g | 51g-75g | 76g-100g | >100g |
| BVA | 0 | 1 10 | 11 50 | 51 75 | 76 100 | 101 |

Test conditions

| # | Condition | Expected Result |
| --- | --- | --- |
| 1 | Put value '0g' into input field | Error message appears "You have entered an incorrect weight of the parcel". |
| 2 | Put value '1g' into input field | Postal rates for sending the light letter is 25$ |
| 3 | Put value '10g' into input field | Postal rates for sending the light letter is 25$ |
| 4 | Put value '11g' into input field | Postal rates for sending the light letter is 35$ |
| 5 | Put value '50g' into input field | Postal rates for sending the light letter is 35$ |
| 6 | Put value '51g' into input field | Postal rates for sending the light letter is 45$ |
| 7 | Put value '75g' into input field | Postal rates for sending the light letter is 45$ |
| 8 | Put value '76g' into input field | Postal rates for sending the light letter is 55$ |
| 9 | Put value '100g' into input field | Postal rates for sending the light letter is 55$ |
| 10 | Put value '101g' into input field | Error message appears "You have entered an incorrect weight of the parcel". |
| 11 | Put value ‘-+=#$%^’ into input field | Error message appears "You have entered an incorrect weight of the parcel". |

EP and BVA: Test Items

| # | Test Items | Test data |
| --- | --- | --- |
| 1 | Verify that client can send parcel which weights less than 10g for 25$ | 1. Any number from 1 to 10 (e.g.3)  2. 1  3. 10 |
| 2 | Verify that client can send parcel which weights from 11g to 50g for 35$ | 1. Any number from 11 to 50 (e.g.15)  2. 11  3. 50 |
| 3 | Verify that client can send parcel which weights from 51g to 75g for 45$ | 1. Any number from 51 to 75 (e.g.67)  2. 51  3. 75 |
| 4 | Verify that client can send parcel which weights from 76g to 100g for 55$ | 1. Any number from 76 to 100 (e.g.82)  2. 76  3. 100 |
| 6 | Verify that the error message "You have entered an incorrect weight of the parcel" appears if the client enters incorrect data. | 1. Any number <= 0 (e.g. -2)  2. 0  3. Any number > 100 (e.g. 120)  4. 101  5. Alphabetic characters  6. Special characters |
| 7 | Verify that error message appears if client leaves  'Weight of the parcel' field empty. |  |

Decision table

| Causes (inputs) | R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Made purchases more than 500$ | Y | Y | Y | Y | N | N | N | N |
| Made purchases less than 500$ | Y | Y | N | N | Y | Y | N | N |
| You are a gold customer of Apple store | Y | N | Y | N | Y | N | Y | N |
| Effects (Outputs) | | | | | | | | |
| Voucher (%) | 30 | 10 | 30 | 5 | 30 | 10 | 30 | 0 |
| Message\* | + |  | + |  | + |  |  |  |

| # | Condition | Outcome |
| --- | --- | --- |
| 1 | A person who made a purchase on $500 and more | 1. Any number from 1 to 10 (e.g.3)  2. 1  3. 10 |
| 2 | Verify that client can send parcel which weights from 11g to 50g for 35$ | 1. Any number from 11 to 50 (e.g.15)  2. 11  3. 50 |
| 3 | Verify that client can send parcel which weights from 51g to 75g for 45$ | 1. Any number from 51 to 75 (e.g.67)  2. 51  3. 75 |
| 4 | Verify that client can send parcel which weights from 76g to 100g for 55$ | 1. Any number from 76 to 100 (e.g.82)  2. 76  3. 100 |
| 6 | Verify that the error message "You have entered an incorrect weight of the parcel" appears if the client enters incorrect data. | 1. Any number <= 0 (e.g. -2)  2. 0  3. Any number > 100 (e.g. 120)  4. 101  5. Alphabetic characters  6. Special characters |
| 7 | Verify that error message appears if client leaves  'Weight of the parcel' field empty. | 1. will get a voucher on 10% discount for today’s purchase |

| Causes (inputs) | R1 | R2 | R3 | R4 |
| --- | --- | --- | --- | --- |
| Made purchases 500$ and more | Y | Y | N | N |
| You are a gold customer of Apple store | Y | N | Y | N |
| Effects (Outputs) | | | | |
| Voucher (%) | 30 | 10 | 30 | 5 |
| Message\* |  |  |  |  |

State transition

