Software Testing

Loan Class CA

&

JRI America report

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Computing with Multi Media

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**Test conditions**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Conditions** | **Valid Partitions** | **Tag**  **V** | **Invalid**  **Partitions** | **Tag**  **X** | **Valid**  **Boundaries** | **Tag**  **B** | **Invalid**  **Boundaries** | **Tag**  **D** |
| Loan Amount | >=500  <=10000 | V1  V2 | <500  >10000  0  Non-integer  null | X1  X2  X3  X4  X5 | 500  5000  5001  10000 | B1  B2  B3  B4 | 499  10001  5000.01  5000.99 | D1  D2  D3  D4 |
| Period | >=1  <=5 | V3  V4 | <1  >5  Non-integer  Null | X6  X7  X8  X9 | 1  3  4  5 | B5  B6  B7  B8 | 0  6 | D5  D6 |

**Decision Tables**

|  |
| --- |
| **Input**  **Conditions** |
| 500-5000 | T | T | T | T | T | T | T | T | F | F | F | F | F | F | F | F |
| 5001-10000 | T | T | T | T | F | F | F | F | T | T | T | T | F | F | F | F |
| 1-3 years | T | T | F | F | T | T | F | F | T | T | F | F | T | T | F | F |
| 4-5 years | T | F | T | F | T | F | T | F | T | F | T | F | T | F | T | F |
| **Output**  **Conditions** |
| Interest Rates (%) | - | - | - | - | - | 10% | 6% | IAE (IP) | - | 8% | 5% | IAE (IP) | - | IAE (IA) | IAE (IA) | IAE (IA) |

Key:

IAE = Illegal Argument Exception

(IP) = Invalid Period

(IA) = Invalid Amount

**Decision Tables (Rationalised)**

|  |
| --- |
| **Input**  **Conditions** |
| 500-5000 | T | T | T | F | F | F | F | F | F |
| 5001-10000 | F | F | F | T | T | T | F | F | F |
| 1-3 years | T | F | F | T | F | F | T | F | F |
| 4-5 years | F | T | F | F | T | F | F | T | F |
| **Output**  **Conditions** |
| Interest Rates (%) | 10% | 6% | IAE (IP) | 8% | 5% | IAE (IP) | IAE (IA) | IAE (IA) | IAE (IA) |

**Decision Tables (Rationalised (2))**

|  |
| --- |
| **Input**  **Conditions** |
| 500-5000 | T | T | T | - | - | - | F |
| 5001-10000 | - | - | - | T | T | T | F |
| 1-3 years | T | - | F | T | - | F | - |
| 4-5 years | - | T | F | - | T | F | - |
| **Output**  **Conditions** |
| Interest Rates (%) | 10% | 6% | IAE (IP) | 8% | 5% | IAE (IP) | IAE (IA) |
| **Tags** | E | F | G | H | I | J | K |

**Test cases**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test case** | **Description** | **Expected result** | **Tags covered** |
| 1 | Loan: 500  Period: 0 year | Illegal argument exception:  Invalid period. | B1, D5  (G) |
| 2 | Loan: 500  Period: 1 year | Period: 1 year  Repayment: 43.95  Interest rate: 10%  Total Paid: 527.58 | B1, B5  (E) |
| 3 | Loan: 500  Period: 2 year | Period: 2 year  Repayment: 23.07  Interest rate: 10%  Total Paid: 553.90 | V3, V4, B1  (E) |
| 4 | Loan: 500  Period: 3 year | Period: 3 year  Repayment: 16.13  Interest rate: 10%  Total Paid: 581.02 | B1, B6  (E) |
| 5 | Loan: 500  Period: 4 year | Period: 4 year  Repayment: 11.74  Interest rate: 6%  Total Paid: 563.95 | B1, B7  (F) |
| 6 | Loan: 500  Period: 5 year | Period: 5 year  Repayment: 9.66  Interest rate: 6%  Total Paid: 580.36 | B1, B8  (F) |
| 7 | Loan: 500  Period: 6 year | Illegal argument exception:  Invalid period. | B1, D6  (G) |
| 8 | Loan: 5000  Period: 0 year | Illegal argument exception:  Invalid period. | B2, D5  (G) |
| 9 | Loan: 5000  Period: 1 year | Period: 1 year  Repayment: 439.57  Interest rate: 10%  Total Paid: 5275.02 | B2, B5  (E) |
| 10 | Loan: 5000  Period: 2 year | Period: 2 year  Repayment: 230.72  Interest rate: 10%  Total Paid: 5537.53 | V3, V4, B2  (E) |
| 11 | Loan: 5000  Period: 3 year | Period: 3 year  Repayment: 161.33  Interest rate: 10%  Total Paid: 5808.33 | B2, B6  (E) |
| 12 | Loan: 5000  Period: 4 year | Period: 4 year  Repayment: 117.42  Interest rate: 6%  Total Paid: 5636.68 | B2, B7  (F) |
| 13 | Loan: 5000  Period: 5 year | Period: 5 year  Repayment: 96.66  Interest rate: 6%  Total Paid: 5800.25 | B2, B8  (F) |
| 14 | Loan: 5000  Period: 6 year | Illegal argument exception:  Invalid period. | B2, D6  (G) |
| 15 | Loan: 5001  Period: 0 year | Illegal argument exception:  Invalid period. | B3, D5  (J) |
| 16 | Loan: 5001  Period: 1 year | Period: 1 year  Repayment: 435.02  Interest rate: 8%  Total Paid: 5220.44 | B3, B5  (H) |
| 17 | Loan: 5001  Period: 2 year | Period: 2 year  Repayment: 226.18  Interest rate: 8%  Total Paid: 5428.50 | V3, V4, B3  (H) |
| 18 | Loan: 5001  Period: 3 year | Period: 3 year  Repayment: 156.71  Interest rate: 8%  Total Paid: 5641.88 | B3, B6  (H) |
| 19 | Loan: 5001  Period: 4 year | Period: 4 year  Repayment: 115.16  Interest rate: 5%  Total Paid: 5528.48 | B3, B7  (I) |
| 20 | Loan: 5001  Period: 5 year | Period: 5 year  Repayment: 94.37  Interest rate: 5%  Total Paid: 5662.91 | B3, B8  (I) |
| 21 | Loan: 5001  Period: 6 year | Illegal argument exception:  Invalid period. | B3, D6  (J) |
| 22 | Loan: 10000  Period: 0 year | Illegal argument exception:  Invalid period. | B4, D5  (J) |
| 23 | Loan: 10000  Period: 1 year | Period: 1 year  Repayment: 869.88  Interest rate: 8%  Total Paid: 10438.69 | B4, B5  (H) |
| 24 | Loan: 10000  Period: 2 year | Period: 2 year  Repayment: 452.27  Interest rate: 8%  Total Paid: 10854.69 | V3, V4, B4  (H) |
| 25 | Loan: 10000  Period: 3 year | Period: 3 year  Repayment: 313.36  Interest rate: 8%  Total Paid: 11281.32 | B4, B6  (H) |
| 26 | Loan: 10000  Period: 4 year | Period: 4 year  Repayment: 230.29  Interest rate: 5%  Total Paid: 11054.35 | B4, B7  (I) |
| 27 | Loan: 10000  Period: 5 year | Period: 5 year  Repayment: 188.71  Interest rate: 5%  Total Paid: 11323.12 | B4, B8  (I) |
| 28 | Loan: 10000  Period: 6 year | Illegal argument exception:  Invalid period. | B4, D6  (J) |
| 29 | Loan: 2750  Period: 2 year | Period: 2 year  Repayment: 126.89  Interest rate: 10%  Total Paid: 3045.72 | V1, V2, V3, V4  (E) |
| 30 | Loan: 2750  Period: 4 year | Period: 4 year  Repayment: 64.58  Interest rate: 6%  Total Paid: 3100.33 | V1, V2, B7  (F) |
| 31 | Loan: 7500  Period: 2 year | Period: 2 year  Repayment: 339.20  Interest rate: 8%  Total Paid: 8141.06 | V1, V2,  V3, V4  (H) |
| 32 | Loan: 7500  Period: 4 year | Period: 4 year  Repayment: 172.71  Interest rate: 5%  Total Paid: 8290.84 | V1, V2, B7  (I) |
| 33 | Loan: 499  Period: 3 year | Illegal argument exception:  Invalid amount. | B6, D1  (K) |
| 34 | Loan: 499  Period: 0 year | Illegal argument exception:  Invalid amount. | D1  (K) |
| 35 | Loan: 499  Period: 6 year | Illegal argument exception:  Invalid amount. | D1  (K) |
| 36 | Loan: 10001  Period: 3 year | Illegal argument exception:  Invalid amount. | B6, D2  (K) |
| 37 | Loan: 10001  Period: 0 year | Illegal argument exception:  Invalid amount. | D2  (K) |
| 38 | Loan: 10001  Period: 6 year | Illegal argument exception:  Invalid amount. | D2  (K) |
| 39 | Loan: 5000.01  Period: 2 year | Illegal argument exception:  Invalid amount. | V3, V4, D3  (K) |
| 40 | Loan: 5000.99  Period: 4 year | Illegal argument exception:  Invalid amount. | B7, D4  (K) |
| 41 | Loan: 300  Period: 4 year | Illegal argument exception:  Invalid amount. | X1  (K) |
| 42 | Loan: 15000  Period: 4 year | Illegal argument exception:  Invalid amount. | X2  (K) |
| 43 | Loan: 0  Period: 4 year | Illegal argument exception:  Invalid amount. | X3  (K) |
| 44 | Loan: M  Period: 4 year | Illegal argument exception:  Invalid amount. | X4  (K) |
| 45 | Loan:  Period: 4 year | Illegal argument exception:  Invalid amount. | X5  (K) |
| 46 | Loan: 1000  Period: -1 year | Illegal argument exception:  Invalid period. | V1, V2, X6  (G) |
| 47 | Loan: 1000  Period: 8 year | Illegal argument exception:  Invalid period. | V1, V2, X7  (G) |
| 48 | Loan: 1000  Period: Months | Illegal argument exception:  Invalid period. | V1, V2, X8  (G) |
| 49 | Loan: 1000  Period: | Illegal argument exception:  Invalid period. | V1, V2, X9  (G) |

**JRI America workshop**

I think that the experience we got from having Emer O’Connor and Joe O’Flaherty is absolutely invaluable, as we got to hear about what actually happens inside the industry from people at the top of their craft.

The first day we had a very interesting presentation which included Emer’s favourite “Ted Talk” from Andy Zaidman called “Making testing fun”. He explained that the best tester in the world is his son, as he tries to break everything! I thought it was a brilliant analogy.

We learnt that a large percentage of JRI America employees are former graduates of the institution which shows how much faith they have in the college to produce high quality workers of the future. This is of course a great confidence boost to many of us, especially those who particularly struggle with the course, such as myself.

Quality Assurance is also somewhat of a surprise success story for the company as it wasn’t something that was originally supposed to be as important as it now is to the company.

There were some fine quotes from both, Joe mentioning that; “Communication was the most important part of the Ted Talk” as this will be the key to how we get on as we ourselves move into industry.

Emer explained that; “The objective of testing is to find problems and fix them to improve quality. Software testing typically represents 40%. It’s better to spend that 40% at the start to get it right, rather than 60-100% trying to fix the problems afterwards.”

The big takeaway for me from the presentation was a slide detailing the six phases in every software development life cycle model (SDLC):

1. Requirement gathering and analysis
2. Design
3. Development (coding)
4. Testing
5. Deployment
6. Maintenance

The next day was the actual workshop. I would be lying if I said I wasn’t terrified about this as much of the time I feel I am completely out of my depth while on this course. To my pleasant surprise, I really enjoyed it and time actually flew by due to this. Emer and Joe were both so easy going, yet, engaging. They showed passion and interest in all of the groups and really made us think, but without putting any pressure on us. The task was very challenging as none of us have had much experience with this before, but I would imagine most came out with a sense of achieving something out of it. It was also good to be placed into group situations with people who aren’t necessarily around each other a lot. The dynamic was good, although I feel we were far too quiet as a class and seemed to fear talking aloud until Emer and Joe brought us out of our shells a little.

I think that Emer’s final few words to us summed the previous point up; “Ask questions, we love them!” But I think on a more personal level, another quote made me reflect for quite a while afterwards; “Know what you’re doing; blagging it is a big no-no with me!” Those words really summed up the past two years for me because although I think I try my hardest and put lots of effort in, part of me feels I may never fully grasp computing to the level I desire. And I really don’t want to ‘blag’ for much longer.