State Cinema Ticket Price Controller Testing

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# Introduction

This document contains the Equivalence partition and boundary tables as well as test schedules for the ticket price controller of the state cinema ticket booking system.

Tests were carried out using NUnit, a unit-testing framework for .NET languages. Tests were written using JetBrains Rider.

Below is the current Pricing from the state cinema website. I have excluded some of the prices such as online booking fees as these are not represented in the test schedule or the price controller.

PRICING AND POLICY

**Ticket Prices**

|  |  |
| --- | --- |
|  | **2D** |
| Adult before 5pm | $14.50 |
| Adult after 5pm | $17.50 |
| Adult Tuesday (all day) | $13.00 |
| Child (under 16) (all day) | $12.00 |
| Senior (65+) (all day) | $12.50 |
| Student (Current ID required) | $14.00 |
| Family Pass (2 Adults/2 Children) or (1 Adult/3 Children)\*Family Pass (2 Adults/2 Children) or (1 Adult/3 Children) | $46.00 |
| Red Carpet Special (Film & Drink or Large Popcorn) | $22.00 |
| Kids and Carers (1st Wed every Month) | $14.50 |

\*Family Pass tickets must be sold to the same film.

# Adult Before 5

Inputsint prQuantity, string prPerson, string prDay, decimal prTime

Outputs – dec

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Equivalence partitioning and boundaries** | | | | |
| **Status** | **Quantity** | **Person** | **Day** | **Time** |
| Acceptable | >0 | Adult | Monday  Wednesday  Thursday  Friday  Saturday  Sunday | >5  <12 |
| Unacceptable | >=0 | Student  Family  Senior  Child | Tuesday | >=0  <5 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test Schedule** | | | | | | |
| **Use Cases** | **Quantity** | **Person** | **Day** | **Time** | **Expected** | **Result** |
| One Adult on Monday at 1.00 | 1 | Adult | Monday | 1.00 | 14.50 | 14.50 |
| One Adult on Saturday at 2.00 | 1 | Adult | Monday | 2.00 | 14.50 | 14.50 |
| Three Adults on Thursday at 1.30 | 3 | Adult | Thursday | 1.30 | 43.50 | 43.50 |
| 1 Adult on Tuesday at 2.45 | 1 | Adult | Tuesday | 2.45 | -1 | -1 |
| 1 Child on Wednesday at 2.45 | 1 | Child | Wednesday | 2.45 | -1 | -1 |
| 1 Student on Wednesday at 3.00 | 1 | Student | Wednesday | 3.00 | -1 | -1 |
| 1 Senior on Wednesday at 3.00 | 1 | Senior | Wednesday | 3.00 | -1 | -1 |
| 1 adult on Wednesday at 10am | 1 | Adult | Wednesday | 10.00 | 14.5 | -1 |
| 1 family on Wednesday at 3.00 | 1 | Family | Wednesday | 3.00 | -1 | -1 |

# Adult After 5

Inputs – int prQuantity, string prPerson, string prDay, decimal prTime

Outputs - dec

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Equivalence partitioning and boundaries** | | | | |
| **Status** | **Quantity** | **Person** | **Day** | **Time** |
| Acceptable | >0 | Adult | Monday  Wednesday  Thursday  Friday  Saturday  Sunday | >5  <12 |
| Unacceptable | >=0 | Student  Family  Senior  C hild | Tuesday | <5  >12 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test Schedule** | | | | | | |
| **Use Cases** | **Quantity** | **Person** | **Day** | **Time** | **Expected** | **Result** |
| 1 Adult Wednesday 6pm | 1 | Adult | Wednesday | 6.00 | 17.5 | 17.5 |
| 2 Adults Thursday 7.40pm | 2 | Adult | Thursday | 7.40 | 35 | 35 |
| 1 adult Saturday 8pm | 1 | Adult | Saturday | 8.00 | 17.5 | 17.5 |
| 1 Student Wednesday 8pm | 1 | Student | Wednesday | 8.00 | -1 | -1 |
| 1 Family Wednesday 8pm | 1 | Family | Wednesday | 8.00 | -1 | -1 |
| 1 Senior Wednesday 8pm | 1 | Senior | Wednesday | 8.00 | -1 | -1 |
| 1 ADULT Wednesday 8pm | 1 | ADULT | Wednesday | 8.00 | 17.5 | 17.5 |

# Adult Tuesday

Inputs – int prQuantity, string prPerson, string prDay  
Outputs – dec

|  |  |  |  |
| --- | --- | --- | --- |
| **Equivalence partitioning and boundaries** | | | |
| **Status** | **Quantity** | **Person** | **Day** |
| Acceptable | > 0 | Adult | Tuesday |
| Unacceptable | <= 0 | Student  Family  Senior  Child | Monday  Wednesday  Thursday  Friday  Saturday  Sunday |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Cases** | | | | | |
| **Use Cases** | **Quantity** | **Person** | **Day** | **Expected** | **Result** |
| 1 Adult Tuesday | 1 | Adult | Tuesday | 13 | 13 |
| 4 Adults Tuesday | 1 | Adult | Tuesday | 52 | 52 |
| 1 Child Tuesday | 1 | Child | Tuesday | -1 | -1 |
| 1 Student Tuesday | 1 | Student | Tuesday | -1 | -1 |
| 1 Family Tuesday | 1 | Family | Tuesday | -1 | -1 |
| 1 Adult Wednesday 6pm | 1 | Adult | Wednesday | -1 | -1 |

**Child Under 16**

Inputs – int prQuantity, string prPerson  
Outputs – dec

|  |  |  |
| --- | --- | --- |
| **Equivalence partitioning and boundaries** | | |
| **Status** | **Quantity** | **Person** |
| Acceptable | > 0 | Child |
| Unacceptable | <= 0 | Senior  Adult  Student  Family |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Cases** | | | | |
| **Use Cases** | **Quantity** | **Person** | **Expected** | **Result** |
| 1 Child under 16 | 1 | Child | 12 | 12 |
| 3 Children under 16 | 3 | Child | 36 | 36 |
| 1 Student | 1 | Student | -1 | -1 |
| 1 Family | 1 | Family | -1 | -1 |
| 1 Adult | 1 | Adult | -1 | -1 |

# Senior

Inputs – int prQuantity, string prPerson  
Outputs – dec

|  |  |  |
| --- | --- | --- |
| **Equivalence partitioning and boundaries** | | |
| **Status** | **Quantity** | **Person** |
| Acceptable | > 0 | Senior |
| Unacceptable | <=0 | Adult  Child  Student  Family |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Schedule** | | | | |
| **Use Cases** | **Quantity** | **Person** | **Expected** | **Result** |
| 1 Senior tickets | 1 | Senior | 12.50 | 12.50 |
| 3 Seniors tickets | 3 | Senior | 37.50 | 37.50 |
| 1 Student tickets | 1 | Student | -1 | -1 |
| 1 Family tickets | 1 | Family | -1 | -1 |
| 1 Adult tickets | 1 | Adult | -1 | -1 |
| 1000 Senior tickets | 1000 | Senior | 12500 | 12500 |
| -1 Senior tickets | -1 | Senior | -1 | -1 |

# Student

Input - int prQuantity, string prPerson

Output - dec

|  |  |  |
| --- | --- | --- |
| **Equivalence partitioning and boundaries** | | |
| **Status** | **Quantity** | **Person** |
| Acceptable | > 0 | Student |
| Unacceptable | <=0 | Adult  Child  Student  Family |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Schedule** | | | | |
| **Use Cases** | **Quantity** | **Person** | **Expected** | **Result** |
| 1 Student ticket | 1 | Student | 14 | 14 |
| 7 Students tickets | 7 | Student | 98 | 98 |
| -10 Students tickets | -10 | Student | -1 | -1 |
| 1 Family ticket | 1 | Family | -1 | -1 |
| 1 Adult ticket | 1 | Adult | -1 | -1 |
| 1 Senior ticket | 1 | Senior | -1 | -1 |

# Family Pass

Input - int prQuantityTicket, int prQuantityAdult, int prQuantityChild

Output - dec

|  |  |  |  |
| --- | --- | --- | --- |
| **Equivalence partitioning and boundaries** | | | |
| **Status** | **Quantity** | **Quantity Adult** | **Quantity Child** |
| Acceptable | 1 | 1  2 | 2  3 |
| Unacceptable | != 1 | <= 0  > 2 | <= 0  > 3 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Schedule** | | | | | |
| **Use Cases** | **Quantity** | **Quantity Adult** | **Quantity Child** | **Expected** | **Result** |
| 2 adults and 2 children 1 family pass | 1 | 2 | 2 | 46.00 | 46.00 |
| 1 family pass 1 adult 3 children | 1 | 1 | 3 | 46.00 | 46.00 |
| 1 family pass 3 adults 1 child | 1 | 3 | 1 | -1 | -1 |
| 1 family pass 0 adults 4 children | 1 | 0 | 4 | -1 | -1 |
| 1 Family Pass 4 Adults 0 children | 1 | 4 | 0 | -1 | -1 |
| 10 family passes 20 Adults 20 Children | 10 | 20 | 20 | -1 | -1 |
| -1 Family Pass 2 Adults 2 Children | -1 | 2 | 2 | -1 | -1 |

# Chick Flick Thursday

Input - int prQuantity, string prPerson, string prDay

Output - dec

|  |  |  |  |
| --- | --- | --- | --- |
| **Equivalence partitioning and boundaries** | | | |
| **Status** | **Quantity** | **Person** | **Day** |
| Acceptable | > 0 | Adult | Thursday |
| Unacceptable | < 1 | Child  Senior  Student  Family | Monday  Tuesday  Wednesday  Friday  Saturday  Sunday |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Schedule** | | | | | |
| **Use Cases** | **Quantity** | **Person** | **Day** | **Expected** | **Result** |
| 1 Adult on Thursday | 1 | Adult | Thursday | 21.50M | 21.50M |
| 3 Adults on Thursday | 3 | Adult | Thursday | 64.50M | 64.50M |
| 1 Adult on Wednesday | 1 | Adult | Wednesday | -1 | -1 |
| 1 Child on Thursday | 1 | Child | Thursday | -1 | -1 |
| 1 Student on Thursday | 1 | Student | Thursday | -1 | -1 |
| -2 Adults on Thursday | -2 | Adult | Thursday | -1 | -1 |
| 1 @du17 on Thursday | 1 | @du17 | Thursday | -1 | -1 |

**Kids Careers**

Input - int prQuantity, string prDay, bool prHoliday

Output - dec

|  |  |  |  |
| --- | --- | --- | --- |
| **Equivalence partitioning and boundaries** | | | |
| **Status** | **Quantity** | **Day** | **Holiday** |
| Acceptable | > 0 | Wednesday | True |
| Unacceptable | <= 0 | Monday  Tuesday  Thursday  Friday  Saturday  Sunday | False |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Schedule** | | | | | |
| **Use Cases** | **Quantity** | **Day** | **Holiday** | **Expected** | **Result** |
| 1 Career Wednesday Holiday | 1 | Wednesday | True | 12 | 12 |
| 4 Careers Wednesday Holiday | 4 | Wednesday | True | 48 | 48 |
| 1 Career Tuesday Holiday | 1 | Tuesday | True | -1 | -1 |
| -1 Career Wednesday Holiday | -1 | Wednesday | True | -1 | -1 |
| 1 Career Wednesday Not Holiday | 1 | Wednesday | False | -1 | -1 |
| 1 Career ‘RandomString’ Holiday | 1 | ‘RandomString’ | True | -1 | -1 |

**Conclusion**

I believe that the cinema functions could better reflect the current prices that are listed on the state cinema website. Moreover, adding in all the extra functionality of 3d movies, or clarifying the price controller to a further degree would be recommended.

Additionally, some parameters such as the time input, need to be slightly modified. Currently the functions work on a 12-hour clock. This could be improved such that the ticket price controller accepted 24-hour input and clarifying the time of day that the movie is being played.

It is arguable that the family pass should be acceptable to be order in bulk. However, in these type of cases I would assume that it would be larger than normal events and as such some extra coordination amongst the people who want the tickets and the movie theatre would need to occur.