SDV502 Unit testing

Hamish Drogemuller 13515109

Contents

[Introduction: 2](#_Toc113196050)

[Unit Tests: 3](#_Toc113196051)

[1. 3](#_Toc113196052)

[2. 4](#_Toc113196053)

[3. 5](#_Toc113196054)

[4. 6](#_Toc113196055)

[5. 7](#_Toc113196056)

[6. 8](#_Toc113196057)

[7. 9](#_Toc113196058)

[8. 10](#_Toc113196059)

[9. 11](#_Toc113196060)

# Introduction:

Unit Testing is key to a successful application. You need to make sure that everything works as expected before shipping to consumers. A key aspect of unit tests is documentation of those unit tests. This allows for easier referencing of what exactly you’ve given the unit test, which allows new developers to understand the code and what’s expected of the application.

# Unit Tests:

## 1.

Adult\_Before\_5()

Inputs: int quantity, string person, string day, decimal time

Expected Output: decimal expectedAmount

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Status | Quantity | Person | Day | Time |
| Acceptable | >0 | Adult | Wednesday – Monday | <=17:00 |
| Unacceptable | <=0 | Student,  Family,  Senior,  Child | Tuesday | >17:00 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Use Cases | Quantity | Person | Day | Time | Expected | Result |
| 1 Adult on Monday | 1 | Adult | Monday | 16:00 | 14.50 | Pass |
| 2 2 Adults Wednesday | 2 | Adult | Wednesday | 16:00 | 29.00 | Pass |
| 3 0 Adults | 0 | Adult | Thursday | 15:00 | -1 | Pass |
| 4 4 Adults after 5 | 4 | Adult | Monday | 18:00 | -1 | Pass |
| 5 4 Adults Monday | 4 | Adult | Monday | 12:00 | 58.00 | Pass |
|  |  |  |  |  |  |  |

## 2.

Adult\_After\_5()

Inputs: int quantity, string person, string day, decimal time

Expected Output: decimal expectedAmount

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Status | Quantity | Person | Day | Time |
| Acceptable | >0 | Adult | Wednesday – Monday | >17:00 |
| Unacceptable | <=0 | Student,  Family,  Senior,  Child | Tuesday | <=17:00 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Use Cases | Quantity | Person | Day | Time | Expected | Result |
| 1 1 Adult on Sunday | 1 | Adult | Sunday | 17:00 | 17.50 | Pass |
| 2 3 Adults after 5 | 3 | Adult | Saturday | 19:00 | 52.50 | Pass |
| 3 1 Adult Monday | 1 | Adult | Monday | 18:00 | 17.50 | Pass |
| 4 1 Adult Tuesday | 1 | Adult | Tuesday | 17:00 | -1 | Pass |
| 5 2 Students Friday | 2 | Student | Friday | 19:00 | -1 | Pass |
|  |  |  |  |  |  |  |

## 3.

Adult\_Tuesday()

Inputs: int quantity, string person, string day

Expected Output: decimal expectedAmount

|  |  |  |  |
| --- | --- | --- | --- |
| Status | Quantity | Person | Day |
| Acceptable | >0 | Adult | Tuesday |
| Unacceptable | <=0 | Student,  Family,  Senior,  Child | Wednesday - Monday |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Use Cases | Quantity | Person | Day | Expected | Result |
| 1 1 Adult Tuesday | 1 | Adult | Tuesday | 13.00 | Pass |
| 2 3 Adults Tuesday | 3 | Adult | Tuesday | 39.00 | Pass |
| 3 25 Adults Tuesday | 25 | Adult | Tuesday | 325.00 | Pass |
| 4 5 Adults Tuesday | 5 | Adult | Tuesday | 65.00 | Pass |
| 5 4 Adults Monday | 4 | Adult | Monday | -1 | Pass |
|  |  |  |  |  |  |

## 4.

Child\_Under\_16()

Inputs: int quantity, string person

Expected Output: decimal expectedOutput

|  |  |  |
| --- | --- | --- |
| Status | Quantity | Person |
| Acceptable | >0 | Child |
| Unacceptable | <=0 | Student,  Family,  Senior,  Adult |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Cases | Quantity | Person | Expected | Result |
| 1 6 Children | 6 | Child | 72.00 | Pass |
| 2 60 Children | 60 | Child | 720.00 | Pass |
| 3 1 Student | 1 | Student | -1 | Pass |
| 4 20 Children | 20 | Child | 240.00 | Pass |
| 5 16 Children | 16 | Child | 192.00 | Pass |
|  |  |  |  |  |

## 5.

Senior()

Inputs: int quantity, string person

Expected Output: decimal expectedOutput

|  |  |  |
| --- | --- | --- |
| Status | Quantity | Person |
| Acceptable | >0 | Senior |
| Unacceptable | <=0 | Student,  Family,  Adult,  Child |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Cases | Quantity | Person | Expected | Result |
| 1 1 Senior | 1 | Senior | 12.50 | Pass |
| 2 20 Senior | 20 | Senior | 250.00 | Pass |
| 3 3 Adult | 3 | Adult | -1 | Pass |
| 4 5 Senior | 5 | Senior | 62.50 | Pass |
| 5 2 Senior | 2 | Senior | 25.00 | Pass |
|  |  |  |  |  |

## 6.

Student()

Inputs: int quantity, string person

Expected Output: decimal expectedAmount

|  |  |  |
| --- | --- | --- |
| Status | Quantity | Person |
| Acceptable | >0 | Student |
| Unacceptable | <=0 | Adult,  Family,  Senior,  Child |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Cases | Quantity | Person | Expected | Result |
| 1 1 Student | 1 | Student | 14.00 | Pass |
| 2 3 Students | 3 | Student | 42.00 | Pass |
| 3 5 Students | 5 | Student | 70.00 | Pass |
| 4 1 Adult | 1 | Adult | -1 | Pass |
| 5 2 Student | 2 | Student | 28.00 | Pass |
|  |  |  |  |  |

## 7.

Family\_Pass()

Inputs: int quantity\_ticket, int quantity\_adult, int quantity\_child

Expected Output: decimal expectedAmount

|  |  |  |
| --- | --- | --- |
| Status | Quantity | Person |
| Acceptable | >=4 | Adult, Child |
| Unacceptable | <4 | Student,  Senior,  Family |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Use Cases | Quantity\_Ticket | Quantity\_Adult | Quantity\_Child | Expected | Result |
| 1 1 Adult, 3 Children | 1 | 1 | 3 | 46.00 | Pass |
| 2 2 Adults, 2 Children | 1 | 2 | 2 | 46.00 | Pass |
| 3 3 Adult, 1 Child | 1 | 3 | 1 | -1 | Pass |
| 4 1 Adult, 2 Children | 1 | 1 | 2 | -1 | Pass |
| 5 4 Adults | 1 | 4 | 0 | -1 | Pass |
|  |  |  |  |  |  |

## 8.

Chick\_Flick\_Thursday()

Inputs: int quantity, string person, string day

{Expected Output}

|  |  |  |  |
| --- | --- | --- | --- |
| Status | Quantity | Person | Day |
| Acceptable | >0 | Adult | Thursday |
| Unacceptable | <=0 | Student,  Family,  Senior,  Child | Friday - Wednesday |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Use Cases | Quantity | Person | Day | Expected | Result |
| 1 1 Adult Thursday | 1 | Adult | Thursday | 21.50 | Pass |
| 2 3 Adults Thursday | 3 | Adult | Thursday | 64.50 | Pass |
| 3 8 Adults Thursday | 8 | Adult | Thursday | 172.00 | Pass |
| 4 32 Adults Thursday | 32 | Adult | Thursday | 688.00 | Pass |
| 5 2 Adults Friday | 2 | Adult | Friday | -1 | Pass |
|  |  |  |  |  |  |

## 9.

Kids\_Careers()

Inputs: int quantity, string day, bool holiday

Expected Output: decimal expectedAmount

|  |  |  |  |
| --- | --- | --- | --- |
| Status | Quantity | Day | Holiday |
| Acceptable | >0 | Wednesday | No |
| Unacceptable | <=0 | Thursday – Tuesday | Yes |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Use Cases | Quantity | Day | Holiday | Expected | Result |
| 1 1 Ticket no holiday | 1 | Wednesday | False | 12.00 | Pass |
| 2 3 Tickets no holiday | 3 | Wednesday | False | 36.00 | Pass |
| 3 5 Tickets no holiday | 5 | Wednesday | False | 60.00 | Pass |
| 4 21 Tickets no holiday | 21 | Wednesday | False | 252.00 | Pass |
| 5 6 Tickets holiday | 6 | Wednesday | True | -1 | Pass |
|  |  |  |  |  |  |