1. **Default Ghost Transition:**

|  |  |  |
| --- | --- | --- |
| **States** | **Ghost Operations** | **Test Cases** |
| S0 | Activate(1,1,1), Approved, Reject, Cancel, PayCash(c<=0), Diesel, Super, Regular,StartPump, Pumplitre, StopPump Receipt NoReceipt | Test Case1 |
| S1 | Activate, PayCredit ,Approved , Diesel, Regular, Super, PayCash, StartPump, Receipt, NoReceipt, Cancel, Reject, Turnoff | Test Case2 |
| S2 | Activate, PayCredit, PayCash Cancel Diesel Regular Super StartPump PumpLitre Receipt NoReceipt StopPump Turnoff | Test Case3 |
| S3 | Activate PayCredit Reject Approved PayCash StartPump PumpLitre StopPump Receipt NoReceipt Turnoff | Test Case4 |
| S4 | Activate PayCredit Approved Reject PayCash Diesel Regular Super Pumplitre StopPump NoReceipt Receipt TurnOff | Test Case5 |
| S5 | Activate(2,3,4) PayCash Diesel StartPump PayCredit Approved Reject Super Regular Cancel Receipt NoReceipt Turn Off | Test Case6 |
| S6 | Activate PayCredit Approved Reject Paycash Diesel Super Regular Cancel StartPump PumpLitre StopPump TurnOff | Test Case7 |

**Non-Executable Operations:**

**Ghost Transition**

StartPump (w<>1 or 0) for s4 is not executable as there won’t be any state or condition where w value is not 1 or 0

**2) All Pair Testing**

**Transition Pair Coverage:**

|  |  |  |
| --- | --- | --- |
| **States** | **Transitions** | **Transition Pairs** |
| S0 | Incoming:  T1,T3,T5,T13,T14,T19  Outgoing:  T2,T6,T20 | T1,T2 T1,T6 T1,T20  T3,T2 T3,T6 T3,T20  T5,T2 T5,T6 T5,T20  T13,T2 T13,T6 T13,T20  T14,T2 T14,T6 T14,T20  T19,T2 T19,T6 T19,T20 |
| S1 | Incoming:T17,T18  Outgoing: T16,T17 | T17,T16 T17,T17  T18,T16 T18,T17 |
| S2 | Incoming:T2  Outgoing:T3,T4 | T2,T3 T2,T4 |
| S3 | Incoming:T4,T6  Outgoing:T5,T7,T8,T15 | T4,T5 T4,T7 T4,T8 T4,T15  T6,T5 T6,T7 T6,T8 T6,T15 |
| S4 | Incoming:T7,T8,T15  Outgoing:T9,T18,T19 | T7,T9 T7,T18 T7,T19  T8,T9 T8,T18 T8,T19  T15,T9 T15,T18 T15,T19 |
| S5 | Incoming:T9,T10  Outgoing:T10,T11,T12 | T9,T11 T9,T10 T9,T12  T10,T11 T10,T10 T10,T12 |
| S6 | Incoming:T11,T12,T16  Outgoing:T13,T14 | T11,T13 T11,T14  T12,T13 T12,T14  T16,T13 T16,T14 |

|  |  |  |
| --- | --- | --- |
|  | **Test Cases** | **Transitions Covered** |
| **Test Case** | **Test Case 8** | **T1,T2 T2,T4 T4,T15 T15,T18**  **T18,T17 T17,T17 T17,T16 T16,T13 T13,T20** |
| **Test Case** | **Test Case 9** | **T1,T6 T6,T7 T7,T9**  **T9,T11 T11,T14 T14,T2**  **T2,T4 T4,T7 T7,T18 T18,T16**  **T16,T13 T13,T20** |
| **Test Case** | **Test Case 10** | **T1,T6 T6,T8 T8,T9**  **T9,T10 T10,T12**  **T12,T13 T13,T6 T6,T15**  **T15,T19 T19,T20** |
| **Test Case** | **Test Case 11** | **T1,T2 T2,T3 T3,T6 T6,T8 T8,T9**  **T9,T12 T12,T14 T14,T20** |
| **Test Case** | **Test Case 12** | **T1,T2 T2,T4 T4,T5 T5,T6 T6,T15 T15,T9 T9,T10 T10,T11 T11,T13 T13,T20** |
| **Test Case** | **Test Case 13** | **T1,T2 T2,T3 T3,T2 T2,T4**  **T4,T7 T7,T18 T18,T16 T16,T14 T14,T20** |
| **Test Case 7:** | **Test Case 14** | **T1,T2 T2,T4 T4,T5 T5,T2 T2,T4**  **T4,T15 T15,T18 T18,T17 T17,T16 T16,T14 T14,T6**  **T6,T5 T5,T20** |
| **Test Case 8:** | **Test Case 15** | **T1,T6 T6,T7 T7,T19 T19,T2 T2,T4 T4,T8 T8,T18**  **T18,T17 T17,T16 T16,T13**  **T13,T2 T2,T3 T3,T20** |
| **Test Case 9:** | **Test Case 16** | **T1,T6 T6,T8 T8,T19**  **T19,T6 T6,T15 T15,T9 T9,T10**  **T10,T10 T10,T11 T11,T14 T14,T20** |
| **Test Case 10:** | **Test Case 17** | **T1,T20** |

**3) Multiple Condition Testing (Branch Testing):**

**Activate ()**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | K=-1 | a>0 | b>0 | d>0 | Test Cases |
| 1 | T | T | T | T | Test Case 17 |
| 2 | T | T | T | F | Test Case 18 |
| 3 | T | T | F | T | Test Case 19 |
| 4 | T | T | F | F | Test Case 20 |
| 5 | T | F | T | T | Test Case 21 |
| 6 | T | F | T | F | Test Case 22 |
| 7 | T | F | F | T | Test Case 23 |
| 8 | T | F | F | F | Test Case 24 |
| 9 | F | T | T | T | Test Case 25 |
| 10 | F | T | T | F | Test Case 26 |
| 11 | F | T | F | T | Test Case 27 |
| 12 | F | T | F | F | Test Case 28 |
| 13 | F | F | T | T | Test Case 29 |
| 14 | F | F | T | F | Test Case 30 |
| 15 | F | F | F | T | Test Case 31 |
| 16 | F | F | F | F | Test Case 32 |

**PayCredit()**

|  |  |  |
| --- | --- | --- |
| No | K=0 | Test Cases |
| 1 | T | Test Case 8 |
| 2 | F | Test Case 2 |

**Approved()**

|  |  |  |
| --- | --- | --- |
| No | K=2 | Test Cases |
| 1 | T | Test Case 12 |
| 2 | F | Test Case 1 |

**Reject()**

|  |  |  |
| --- | --- | --- |
| No | K=2 | Test Cases |
| 1 | T | Test Case 13 |
| 2 | F | Test Case 4 |

**Cancel ()**

|  |  |  |  |
| --- | --- | --- | --- |
| No | K=3 | K=4 | Test Cases |
| 1 | T | T | Not Executable |
| 2 | T | F | Test Case 12 |
| 3 | F | T | Test Case 16 |
| 4 | F | F | Test Case 7 |

|  |  |  |
| --- | --- | --- |
| No | W=0 | Test Cases |
| 1 | T | Test Case 16 |
| 2 | F | Test Case 12 |

**PayCash(C)**

|  |  |  |  |
| --- | --- | --- | --- |
| No | K=0 | c>0 | Test Cases |
| 1 | T | T | Test Case 15 |
| 2 | T | F | Test Case 1 |
| 3 | F | T | Test Case 3 |
| 3 | F | F | Test Case 33 |

**Diesel ()**

|  |  |  |
| --- | --- | --- |
| No | K=3 | Test Cases |
| 1 | T | Test Case 14 |
| 2 | F | Test Case 7 |

**Super()**

|  |  |  |
| --- | --- | --- |
| No | K=3 | Test Cases |
| 1 | T | Test Case 10 |
| 2 | F | Test Case 5 |

**Regular ()**

|  |  |  |
| --- | --- | --- |
| No | K=3 | Test Cases |
| 1 | T | Test Case 9 |
| 2 | F | Test Case 2 |

**StartPump ()**

|  |  |  |
| --- | --- | --- |
| No | K=4 | Test Cases |
| 1 | T | TestCase 10 |
| 2 | F | TestCase 4 |

**PumpLiter ()**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | W=1 | Cash>=price\*L+1 | W=0 | Test Cases |
| 1 | T | T | T | Not Executable |
| 2 | T | T | F | Test Case 15 |
| 3 | T | F | T | Not Executable |
| 4 | T | F | F | Test Case 8 |
| 5 | F | T | T | Test Case 16 |
| 6 | F | T | F | Not Executable |
| 7 | F | F | T | Test Case 11 |
| 8 | F | F | F | Not Executable |

|  |  |  |  |
| --- | --- | --- | --- |
| No | W=0 | Cash<price\*L+1 | Test Cases |
| 1 | T | T | Test Case 11 |
| 2 | T | F | Not Executable |
| 3 | F | T | Not Executable |
| 4 | F | F | Not Executable |

|  |  |  |  |
| --- | --- | --- | --- |
| No | W=0 | Total<cash | Test Cases |
| 1 | T | T | Test Case 16 |
| 2 | T | F | Test Case 12 |
| 3 | F | T | Not Executable |
| 4 | F | F | Not Executable |

**Receipt ()**

|  |  |  |
| --- | --- | --- |
| No | K=0 | Test Cases |
| 1 | T | TestCase 12 |
| 2 | F | TestCase 6 |

**NoReceipt()**

|  |  |  |
| --- | --- | --- |
| No | K=0 | Test Cases |
| 1 | T | **Test Case 13:** |
| 2 | F | **Test Case 5** |

**TurnOff ()**

|  |  |  |
| --- | --- | --- |
| No | K=0 | Test Cases |
| 1 | T | TestCase 17 |
| 2 | F | TestCase 5 |

**StopPump()**

|  |  |  |
| --- | --- | --- |
| No | K=5 | Test Cases |
| 1 | T | TestCase 8 |
| 2 | F | TestCase 3 |

|  |  |  |  |
| --- | --- | --- | --- |
| No | W=0 | Total<cash | Test Cases |
| 1 | T | T | Test Case 12 |
| 2 | T | F | Test Case 11 |
| 3 | F | T | Test Case 15 |
| 4 | F | F | Test Case 34 |

**Not Executable Paths:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | State | W=1 | Cash>=price\*L+1 | W=0 | Test Cases | Reason |
| 1 | Pump Liter | T | T | T | Not Executable | w cannot have Two values 1 and 0 in same condition |
| 2 | Pump Liter | T | F | T | Not Executable |
| 3 | Pump Liter | F | T | F | Not Executable | w will never have value other than 1 or 0 hence the condition will not be executed |
| 4 | Pump Liter | F | F | F | Not Executable |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | State | W=0 | Cash<price\*L+1 | Test Cases | Reason |
| 5 | Pump Liter | T | F | Not Executable | If cash<price is false  Cash>=price\*(L+1)  And the branch condition  (W=1 && (cash>=price\*(l+1) || w==0)) will be executed  Control will never reach this execution condition |
| 6 | Pump Liter | F | T | Not Executable | This if loop in PumpLiter is executed only if w value is not equal to 1.  If w<>1 w can only be set to 0.  Hence w=0 will never be false and the branch will never be executed |
| 7 | Pump Liter | F | F | Not Executable |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | State | W=0 | Total<cash | Test Cases | Reason |
| 8 | Pump Liter | F | T | Not Executable | This if loop in PumpLiter is executed only if w value is set to 0. If w=0 is false (w=1)  This branch will never be executed |
| 9 | Pump Liter | F | F | Not Executable |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | State | K=3 | K=4 | Test Case | Reason |
| 10 | **Cancel** | T | T | Not Executable | K cannot have 3 and 4 both value in same condition |

**4. Test Suite and Execution Results:**

**Assuming Exit As TurnOff state when gas pump exits and Start as initial state before Activation**

**Test Case 1:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **sprice** | **dprice** | **w** | **price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Approved | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Cancel | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Reject | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCash -1 | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Diesel | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Super | 0 | S0 | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Regular | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| StartPump | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PumpLiter | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| StopPump | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Receipt | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| NoReceipt | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 2:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Pay Credit | 2 | S2 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Approved | 3 | S3 | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Diesel | 4 | S4 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| StartPump | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| Activate | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| PayCredit | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| Approved | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| Diesel | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| Regular | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| Super | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| PayCash 1 | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| StartPump | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| Receipt | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| NoReceipt | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| Cancel | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| Reject | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| StopPump | 6 | S6 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| NoReceipt | 0 | S0 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | exit | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |

**Test Case 3:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **sprice** | **dprice** | **w** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Pay Credit | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Activate | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCredit | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCash 5.9 | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Cancel | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Diesel | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Regular | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Super | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| StartPump | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Pump Liter | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Receipt | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| NoReceipt | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| StopPump | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | 2 | S2 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Approved | 3 | S3 | 2 | 3 | 5 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Cancel | 0 | S0 | 2 | 3 | 5 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 5 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 4:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 4 | 6 | 7 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Pay Credit | 2 | S2 | 4 | 6 | 7 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Approved | 3 | S3 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Activate | 3 | S3 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCredit | 3 | S3 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Reject | 3 | S3 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Approved | 3 | S3 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCash 10 | 3 | S3 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| StartPump | 3 | S3 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| PumpLiter | 3 | S3 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Stopump | 3 | S3 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Receipt | 3 | S3 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| NoReceipt | 3 | S3 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | 3 | S3 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Super | 4 | S4 | 4 | 6 | 7 | 1 | 6 | 0 | 0 | 0 | Pass | Pass |
| Cancel | 0 | S0 | 4 | 6 | 7 | 1 | 6 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 4 | 6 | 7 | 1 | 6 | 0 | 0 | 0 | Pass | Pass |

**Test Case 5:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 4 | 6 | 8 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCredit | 2 | S2 | 4 | 6 | 8 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Approved | 3 | S3 | 4 | 6 | 8 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Diesel | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| Activate | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| PayCredit | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| Approved | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| Reject | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| PayCash 12 | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| Diesel | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| Regular | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| Super | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| PumpLiter | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| StopPump | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| NoReceipt | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| Receipt | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | 4 | S4 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| Cancel | 0 | S0 | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 4 | 6 | 8 | 1 | 8 | 0 | 0 | 0 | Pass | Pass |

**Test Case 6:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 4 | 6 | 9 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCash 10 | 3 | S3 | 4 | 6 | 9 | 0 | 0 | 0 | 10 | 0 | Pass | Pass |
| Super | 4 | S4 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| StartPump | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| Activate | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| PayCash 5 | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| Diesel | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| StartPump | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| PayCredit | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| Approved | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| Reject | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| Super | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| Regular | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| Cancel | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| Receipt | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| NoReceipt | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| TurnOff | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 0 | 10 | 0 | Pass | Pass |
| PumpLiter | 5 | S5 | 4 | 6 | 9 | 0 | 6 | 6 | 10 | 1 | Pass | Pass |
| StopPump | 6 | S6 | 4 | 6 | 9 | 0 | 6 | 6 | 10 | 1 | Pass | Pass |
| NoReceipt | 0 | S0 | 4 | 6 | 9 | 0 | 6 | 6 | 10 | 1 | Pass | Pass |
| TurnOff | -2 | Exit | 4 | 6 | 9 | 0 | 6 | 6 | 10 | 1 | Pass | Pass |

**Test Case 7:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCash 5 | 3 | S3 | 2 | 3 | 4 | 0 | 0 | 0 | 5 | 0 | Pass | Pass |
| Regular | 4 | S4 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| StartPump | 5 | S5 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| StopPump | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| Activate | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| PayCredit | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| Approved | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| Reject | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| PayCash | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| Diesel | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| Super | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| Regular | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| Cancel | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| StartPump | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| PumpLiter | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| StopPump | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| TurnOff | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| Receipt | 0 | S0 | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 4 | 0 | 2 | 0 | 5 | 0 | Pass | Pass |

**Test Case 8:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCredit | 2 | S2 | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Approved | 3 | S3 | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Diesel | 4 | S4 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| StartPump | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| PumpLiter | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 4 | 0 | 1 | Pass | Pass |
| PumpLiter | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 8 | 0 | 2 | Pass | Pass |
| StopPump | 6 | S6 | 2 | 3 | 4 | 1 | 4 | 8 | 0 | 2 | Pass | Pass |
| Receipt | 0 | S0 | 2 | 3 | 4 | 1 | 4 | 8 | 0 | 2 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 4 | 1 | 4 | 8 | 0 | 2 | Pass | Pass |

**Test Case 9:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCash 2 | 3 | S3 | 2 | 3 | 4 | 0 | 0 | 0 | 2 | 0 | Pass | Pass |
| Regular | 4 | S4 | 2 | 3 | 4 | 0 | 2 | 0 | 2 | 0 | Pass | Pass |
| StartPump | 5 | S5 | 2 | 3 | 4 | 0 | 2 | 0 | 2 | 0 | Pass | Pass |
| StopPump | 6 | S6 | 2 | 3 | 4 | 0 | 2 | 0 | 2 | 0 | Pass | Pass |
| NoReceipt | 0 | S0 | 2 | 3 | 4 | 0 | 2 | 0 | 2 | 0 | Pass | Pass |
| PayCredit | 2 | S2 | 2 | 3 | 4 | 1 | 2 | 0 | 2 | 0 | Pass | Pass |
| Approved | 3 | S3 | 2 | 3 | 4 | 1 | 2 | 0 | 2 | 0 | Pass | Pass |
| Regular | 4 | S4 | 2 | 3 | 4 | 1 | 2 | 0 | 2 | 0 | Pass | Pass |
| StartPump | 5 | S1 | 2 | 3 | 4 | 1 | 2 | 0 | 2 | 0 | Pass | Pass |
| StopPump | 6 | S6 | 2 | 3 | 4 | 1 | 2 | 0 | 2 | 0 | Pass | Pass |
| Receipt | 0 | S0 | 2 | 3 | 4 | 1 | 2 | 0 | 2 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 4 | 1 | 2 | 0 | 2 | 0 | Pass | Pass |

**Test Case 10:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCash 6 | 3 | S3 | 2 | 3 | 4 | 0 | 0 | 0 | 5 | 0 | Pass | Pass |
| Super | 4 | S4 | 2 | 3 | 4 | 0 | 3 | 0 | 5 | 0 | Pass | Pass |
| StartPump | 5 | S5 | 2 | 3 | 4 | 0 | 3 | 0 | 5 | 0 | Pass | Pass |
| PumpLiter | 5 | S5 | 2 | 3 | 4 | 0 | 3 | 0 | 5 | 0 | Pass | Pass |
| PumpLiter | 6 | S6 | 2 | 3 | 4 | 0 | 3 | 3 | 5 | 1 | Pass | Pass |
| Receipt | 0 | S0 | 2 | 3 | 4 | 0 | 3 | 3 | 5 | 1 | Pass | Pass |
| PayCash 4 | 3 | S3 | 2 | 3 | 4 | 0 | 4 | 3 | 4 | 1 | Pass | Pass |
| Diesel | 4 | S4 | 2 | 3 | 4 | 0 | 4 | 3 | 4 | 1 | Pass | Pass |
| Cancel | 5 | S1 | 2 | 3 | 4 | 0 | 4 | 3 | 4 | 1 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 4 | 0 | 4 | 3 | 4 | 1 | Pass | Pass |

**Test Case 11:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCredit | 2 | S2 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Reject | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCash 2 | 3 | S3 | 2 | 3 | 4 | 0 | 0 | 0 | 2 | 0 | Pass | Pass |
| Super | 4 | S4 | 2 | 3 | 4 | 0 | 3 | 0 | 2 | 0 | Pass | Pass |
| StartPump | 5 | S5 | 2 | 3 | 4 | 0 | 3 | 0 | 2 | 0 | Pass | Pass |
| PumpLiter | 6 | S6 | 2 | 3 | 4 | 0 | 3 | 0 | 2 | 0 | Pass | Pass |
| NoReceipt | 0 | S0 | 2 | 3 | 4 | 0 | 3 | 0 | 2 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 4 | 0 | 3 | 0 | 2 | 0 | Pass | Pass |

**Test Case 12:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCredit | 2 | S2 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Approved | 3 | S3 | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Cancel | 0 | S0 | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCash 5 | 3 | S3 | 2 | 3 | 4 | 0 | 0 | 0 | 4 | 0 | Pass | Pass |
| Diesel | 4 | S4 | 2 | 3 | 4 | 0 | 4 | 0 | 4 | 0 | Pass | Pass |
| StartPump | 5 | S5 | 2 | 3 | 4 | 0 | 4 | 0 | 4 | 0 | Pass | Pass |
| PumpLiter | 5 | S5 | 2 | 3 | 4 | 0 | 4 | 4 | 4 | 1 | Pass | Pass |
| StopPump | 6 | S6 | 2 | 3 | 4 | 0 | 4 | 4 | 4 | 1 | Pass | Pass |
| Receipt | 0 | S0 | 2 | 3 | 4 | 0 | 4 | 4 | 4 | 1 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 4 | 0 | 4 | 4 | 4 | 1 | Pass | Pass |

**Test Case 13:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCredit | 2 | S2 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Reject | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCredit | 2 | S2 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Approved | 3 | S3 | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Regular | 4 | S4 | 2 | 3 | 4 | 1 | 2 | 0 | 0 | 0 | Pass | Pass |
| StartPump | 5 | S1 | 2 | 3 | 4 | 1 | 2 | 0 | 0 | 0 | Pass | Pass |
| StopPump | 6 | S6 | 2 | 3 | 4 | 1 | 2 | 0 | 0 | 0 | Pass | Pass |
| NoReceipt | 0 | S0 | 2 | 3 | 4 | 1 | 2 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 4 | 1 | 2 | 0 | 0 | 0 | Pass | Pass |

**Test Case 14:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCredit | 2 | S2 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Approved | 3 | S3 | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Cancel | 0 | S0 | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCredit | 2 | S2 | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Approved | 3 | S3 | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | Pass | Pass |
| Diesel | 4 | S4 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| StartPump | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 0 | 0 | Pass | Pass |
| PumpLiter | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 4 | 0 | 1 | Pass | Pass |
| StopPump | 6 | S6 | 2 | 3 | 4 | 1 | 4 | 4 | 0 | 1 | Pass | Pass |
| NoReceipt | 0 | S0 | 2 | 3 | 4 | 1 | 4 | 4 | 0 | 1 | Pass | Pass |
| PayCash 4 | 3 | S3 | 2 | 3 | 4 | 0 | 4 | 4 | 4 | 1 | Pass | Pass |
| Cancel | 0 | S0 | 2 | 3 | 4 | 0 | 4 | 4 | 4 | 1 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 4 | 0 | 4 | 4 | 4 | 1 | Pass | Pass |

**Test Case 15:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCash 8 | 3 | S3 | 2 | 3 | 4 | 0 | 0 | 0 | 8 | 0 | Pass | Pass |
| Regular | 4 | S4 | 2 | 3 | 4 | 0 | 2 | 0 | 8 | 0 | Pass | Pass |
| Cancel | 0 | S0 | 2 | 3 | 4 | 0 | 2 | 0 | 8 | 0 | Pass | Pass |
| PayCredit | 2 | S2 | 2 | 3 | 4 | 0 | 2 | 0 | 8 | 0 | Pass | Pass |
| Approved | 3 | S3 | 2 | 3 | 4 | 1 | 2 | 0 | 8 | 0 | Pass | Pass |
| Super | 4 | S4 | 2 | 3 | 4 | 1 | 3 | 0 | 8 | 0 | Pass | Pass |
| StartPump | 5 | S1 | 2 | 3 | 4 | 1 | 3 | 0 | 8 | 0 | Pass | Pass |
| PumpLiter | 5 | S1 | 2 | 3 | 4 | 1 | 3 | 3 | 8 | 1 | Pass | Pass |
| StopPump | 6 | S6 | 2 | 3 | 4 | 1 | 3 | 3 | 8 | 1 | Pass | Pass |
| Receipt | 0 | S0 | 2 | 3 | 4 | 1 | 3 | 3 | 8 | 1 | Pass | Pass |
| PayCredit | 2 | S2 | 2 | 3 | 4 | 1 | 3 | 3 | 8 | 1 | Pass | Pass |
| Reject | 0 | S0 | 2 | 3 | 4 | 1 | 3 | 3 | 8 | 1 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 4 | 1 | 3 | 3 | 8 | 1 | Pass | Pass |

**Test Case 16:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCash 4 | 3 | S3 | 2 | 3 | 4 | 0 | 0 | 0 | 4 | 0 | Pass | Pass |
| Super | 4 | S4 | 2 | 3 | 4 | 0 | 3 | 0 | 4 | 0 | Pass | Pass |
| Cancel | 0 | S0 | 2 | 3 | 4 | 0 | 3 | 0 | 4 | 0 | Pass | Pass |
| PayCash 10 | 2 | S2 | 2 | 3 | 4 | 0 | 3 | 0 | 10 | 0 | Pass | Pass |
| Diesel | 3 | S3 | 2 | 3 | 4 | 0 | 4 | 0 | 10 | 0 | Pass | Pass |
| StartPump | 4 | S4 | 2 | 3 | 4 | 0 | 4 | 0 | 10 | 0 | Pass | Pass |
| PumpLiter | 5 | S5 | 2 | 3 | 4 | 0 | 4 | 4 | 10 | 1 | Pass | Pass |
| PumpLiter | 5 | S5 | 2 | 3 | 4 | 0 | 4 | 8 | 10 | 2 | Pass | Pass |
| StopPump | 6 | S6 | 2 | 3 | 4 | 0 | 4 | 8 | 10 | 2 | Pass | Pass |
| NoReceipt | 0 | S0 | 2 | 3 | 4 | 0 | 4 | 8 | 10 | 2 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 4 | 0 | 4 | 8 | 10 | 2 | Pass | Pass |

**Test Case 17:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 1.5 | 2.3 | 2.6 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 1.5 | 2.3 | 2.6 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 18:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | -1 | Start | 1.2 | 2.2 | -3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 19:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | -1 | Start | 2 | -4 | 3.4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 20:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | -1 | Start | 3 | -4 | -2 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 21:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | -1 | Start | -2 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 22:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | -1 | Start | -3 | 4 | -7 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 23:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | -1 | Start | -2 | -6 | 5 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 24:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | -1 | Start | -3 | -6 | -8 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 25:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate(1,2,3) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Activate(1.5,32,36) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 26:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate(1,2,3) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Activate(1.2,2.2,-3) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 27:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate(1,2,3) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Activate(2,-4,3.4) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 28:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate(1,2,3) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Activate(3,-4,-2) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 29:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate(1,2,3) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Activate(-2,4,5) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 30:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate(1,2,3) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Activate(-3,4,-7) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 31:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate(1,2,3) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Activate(-2,-6,5) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 32:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate(1,2,3) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Activate(-3,-6,-8) | 0 | S0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| TurnOff | -2 | Exit | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 33:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 4 | 6 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Pay Credit | 2 | S2 | 2 | 4 | 6 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Pay Cash -5 | 2 | S2 | 2 | 4 | 6 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Reject | 0 | S0 | 2 | 4 | 6 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| Turn Off | -2 | Exit | 2 | 4 | 6 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |

**Test Case 34:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test#** | **K** | **State** | **rprice** | **Sprice** | **Dprice** | **W** | **Price** | **total** | **cash** | **Liter** | **Actual result** | **Expected Result** |
| Activate | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | Pass | Pass |
| PayCash | 3 | S3 | 2 | 3 | 4 | 0 | 0 | 0 | 4 | 0 | Pass | Pass |
| Cancel | 0 | S0 | 2 | 3 | 4 | 0 | 0 | 0 | 4 | 0 | Pass | Pass |
| PayCredit | 2 | S2 | 2 | 3 | 4 | 0 | 0 | 0 | 4 | 0 | Pass | Pass |
| Approved | 3 | S3 | 2 | 3 | 4 | 1 | 0 | 0 | 4 | 0 | Pass | Pass |
| Diesel | 4 | S4 | 2 | 3 | 4 | 1 | 4 | 0 | 4 | 0 | Pass | Pass |
| StartPump | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 0 | 4 | 0 | Pass | Pass |
| PumpLiter | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 4 | 4 | 1 | Pass | Pass |
| PumpLiter | 5 | S1 | 2 | 3 | 4 | 1 | 4 | 8 | 4 | 2 | Pass | Pass |
| StopPump | 6 | S6 | 2 | 3 | 4 | 1 | 4 | 8 | 4 | 2 | Pass | Pass |
| Receipt | 0 | S0 | 2 | 3 | 4 | 1 | 4 | 8 | 4 | 2 | Pass | Pass |
| TurnOff | -2 | Exit | 2 | 3 | 4 | 1 | 4 | 8 | 4 | 2 | Pass | Pass |

**Test Suite (Ts.txt)**

**Test#1: Activate 2 3 4 Activate 1 1 1 Approved Cancel Reject PayCash -1 Diesel Super Regular StartPump PumpLiter StopPump Receipt NoReceipt TurnOff**

**Test#2: Activate 2 3 4 PayCredit Approved Diesel StartPump Activate 1 1 2 PayCredit Approved Diesel Regular Super PayCash 1 StartPump Receipt NoReceipt Cancel Reject TurnOff StopPump NoReceipt TurnOff**

**Test#3: Activate 2 3 5 PayCredit Activate 1 2 3 PayCredit PayCash 5.9 Cancel Diesel Regular Super StartPump PumpLiter Receipt NoReceipt StopPump TurnOff Approved Cancel TurnOff**

**Test#4: Activate 4 6 7 PayCredit Approved Activate 1 2 3 PayCredit Reject Approved PayCash 10 StartPump PumpLiter StopPump Receipt NoReceipt TurnOff Super Cancel TurnOff**

**Test#5: Activate 4 6 8 PayCredit Approved Diesel Activate 1 2 7 PayCredit Approved Reject PayCash 12 Diesel Regular Super PumpLiter StopPump NoReceipt Receipt TurnOff Cancel TurnOff**

**Test#6: Activate 4 6 9 PayCash 10 Super StartPump Activate 2 3 4 PayCash 5 Diesel StartPump PayCredit Approved Reject Super Regular Cancel Receipt NoReceipt TurnOff PumpLiter StopPump NoReceipt TurnOff**

**Test#7: Activate 2 3 4 PayCash 5 Regular StartPump StopPump Activate 1 2 9 PayCredit Approved Reject PayCash 4 Diesel Super Regular Cancel StartPump PumpLiter StopPump TurnOff Receipt TurnOff**

**Test#8: Activate 2 3 4 PayCredit Approved Diesel StartPump PumpLiter PumpLiter StopPump Receipt TurnOff**

**Test#9: Activate 2 3 4 PayCash 2 Regular StartPump StopPump NoReceipt PayCredit Approved Regular StartPump StopPump Receipt TurnOff**

**Test#10: Activate 2 3 4 PayCash 5 Super StartPump PumpLiter PumpLiter Receipt PayCash 4 Diesel Cancel TurnOff**

**Test#11: Activate 2 3 4 PayCredit Reject PayCash 2 Super StartPump PumpLiter NoReceipt TurnOff**

**Test#12: Activate 2 3 4 PayCredit Approved Cancel PayCash 5 Diesel StartPump PumpLiter StopPump Receipt TurnOff**

**Test#13: Activate 2 3 4 PayCredit Reject PayCredit Approved Regular StartPump StopPump NoReceipt TurnOff**

**Test#14: Activate 2 3 4 PayCredit Approved Cancel PayCredit Approved Diesel StartPump PumpLiter StopPump NoReceipt PayCash 4 Cancel TurnOff**

**Test#15: Activate 2 3 4 PayCash 8 Regular Cancel PayCredit Approved Super StartPump PumpLiter StopPump Receipt PayCredit Reject TurnOff**

**Test#16: Activate 2 3 4 PayCash 4 Super Cancel PayCash 10 Diesel StartPump PumpLiter PumpLiter StopPump NoReceipt TurnOff**

**Test#17: Activate 1.5 2.3 2.6 TurnOff**

**Test#18: Activate 1.2 2.2 -3**

**Test#19: Activate 2 -4 3.4**

**Test#20: Activate 3 -4 -2**

**Test#21: Activate -2 4 5**

**Test#22: Activate -3 4 -7**

**Test#23: Activate -2 -6 5**

**Test#24: Activate -3 -6 -8**

**Test#25: Activate 1 2 3 Activate 1.5 32 36 TurnOff**

**Test#26: Activate 1 2 3 Activate 1.2 2.2 -3 TurnOff**

**Test#27: Activate 1 2 3 Activate 2 -4 3.4 TurnOff**

**Test#28: Activate 1 2 3 Activate 3 -4 -2 TurnOff**

**Test#29: Activate 1 2 3 Activate -2 4 5 TurnOff**

**Test#30: Activate 1 2 3 Activate -3 4 -7 TurnOff**

**Test#31: Activate 1 2 3 Activate -2 -6 5 TurnOff**

**Test#32: Activate 1 2 3 Activate -3 -6 -8 TurnOff**

**Test#33: Activate 2 4 6 PayCredit PayCash 5 Reject TurnOff**

**Test#34: Activate 2 3 4 PayCash 4 Cancel PayCredit Approved Diesel StartPump PumpLiter PumpLiter StopPump Receipt TurnOff**

**$$**

**Conclusion:**

The project provided great guidance on various ways of implementing the testing strategies between Model Based Testing and Class Based Testing to acquire accurate results. It gave us knowledge about the Process of comparing and evaluating outcomes of the class model with the desired outcome expected in EFSM Model using test environment (Test Driver and Test Suite)

The comparison between the two model can be more accurate and Less time Consuming if the Automated Testing Oriented Methods are implemented to view the states, operations executed in the class model and also to view the various paths that are executed in branch testing and various variable that are set internally in the class model.

With the help of Automated testing scripts can be generated that stores the results in file which can be later used to report outcomes and compare with earlier test cases.

**5) Source Code with Test Driver**

**#include**<iostream>

**#include**<string.h>

**#include** <stdlib.h>

**#include** <ctype.h>

**using** **namespace** std;

**class** GasPump {

**public**:

**GasPump**();

**int** **Activate** (**float** a, **float** b, **float** d);

**int** **PayCredit**();

**int** **Reject**();

**int** **Cancel**();

**int** **Approved**();

**int** **PayCash**(**float** c);

**int** **Regular**();

**int** **Super**();

**int** **Diesel**();

**int** **StartPump**();

**int** **PumpLiter**();

**int** **StopPump**();

**int** **NoReceipt**();

**int** **Receipt**();

**int** **TurnOff**();

**int** **showPrice**(**int**);

**int** **showCash**();

**int** **showTotal**();

**void** **showState**(**int**);

**int** **showLitre**();

**int** **showKValue**();

**void** **showPaymentMode**();

**private**:

**float** Rprice;

**float** Sprice;

**float** Dprice;

**int** w;

**float** price;

**int** L;

**float** total;

**float** cash;

**int** k;

};

**GasPump::GasPump**(){

Rprice=0;

Sprice=0;

Dprice=0;

w=0;

price=0;

L=0;

total=0;

cash=0;

k=-1;

}

**int** **GasPump::Activate** (**float** a, **float** b, **float** d){

**using** **namespace** std;

**if** ((k==-1)&&(a>0)&&(b>0)&&(d>0)) {

k=0;

Rprice=a;

Sprice=b;

Dprice=d;

cout<<"GAS PUMP IS ON"<<endl;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::PayCredit**() {

**using** **namespace** std;

**if** (k==0) {

k=2;

cout<<"CHECKING CREDIT CARD."<<endl;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::Reject**() {

**using** **namespace** std;

**if** (k==2) {

k=0;

cout<<"CREDIT CARD IS REJECTED."<<endl;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::Approved**() {

**using** **namespace** std;

**if** (k==2) {

k=3;

w=1;

cout<<"CREDIT CARD APPROVED."<<endl;

cout<<"SELECT TYPE OF GASOLINE:"<<endl;

cout<<"a. REGULAR"<<endl;

cout<<"b. SUPER"<<endl;

cout<<"c. DIESEL"<<endl;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::Cancel**() {

**using** **namespace** std;

**if** ((k==3)||(k==4)) {

k=0;

cout<<"TRANSACTION IS CANCELLED."<<endl;

**if** (w==0) cout<<"$"<<cash<<" OF CASH IS RETURNED"<<endl;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::PayCash**(**float** c) {

**using** **namespace** std;

**if** ((k==0)&&(c>0)) {

k=3;

w=0;

cash=c;

cout<<"SELECT TYPE OF GASOLINE:"<<endl;

cout<<"a. REGULAR"<<endl;

cout<<"b. SUPER"<<endl;

cout<<"c. DIESEL"<<endl;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::Regular**() {

**using** **namespace** std;

**if** (k==3) {

k=4;

cout<<"REGULAR IS SELECTED."<<endl;

price=Rprice;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::Super**() {

**using** **namespace** std;

**if** (k==3) {

k=4;

cout<<"SUPER IS SELECTED."<<endl;

price=Sprice;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::Diesel**() {

**using** **namespace** std;

**if** (k==3) {

k=4;

cout<<"DIESEL IS SELECTED."<<endl;

price=Dprice;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::StartPump**() {

**using** **namespace** std;

**if** (k==4) {

k=5;

L=0;

total=0;

cout<<"PUMP IS READY TO DISPOSE "<<endl;

cout<<"# OF LITERS PUMPED: "<<L<<endl;

cout<<"TOTAL CHARGE: $"<<total<<endl;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::PumpLiter**() {

**using** **namespace** std;

**if** (k==5) {

**if** ((w==1)||((cash>=price\*(L+1))&&(w==0))) {

L=L+1;

total=L\*price;

cout<<"# OF LITERS PUMPED: "<<L<<endl;

cout<<"TOTAL CHARGE: $"<<total<<endl;

cout<<"CONTINUE PUMPING"<<endl;

**return** 1;

} **else** **if** ((w==0)&&(cash<price\*(L+1))) {

k=6;

cout<<"PUMP STOPPED. NOT SUFFICIENT FUNDS. "<<endl;

cout<<"# OF LITERS PUMPED: "<<L<<endl;

cout<<"TOTAL CHARGE: $"<<total<<endl;

**if** ((w==0)&&(total<cash)) cout<<"$"<<cash-total<<" OF CASH IS RETURNED"<<endl;

cout<<"DO YOU WANT A RECEIPT?"<<endl;

**return** 1;

};

};

**return** 0;

};

**int** **GasPump::StopPump**() {

**using** **namespace** std;

**if** (k==5) {

k=6;

cout<<"PUMP STOPPED. "<<endl;

cout<<"# OF LITERS PUMPED: "<<L<<endl;

cout<<"TOTAL CHARGE: $"<<total<<endl;

**if** ((w==0)&&(total<cash)) cout<<"$"<<cash-total<<" OF CASH IS RETURNED"<<endl;

cout<<"DO YOU WANT A RECEIPT?"<<endl;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::NoReceipt**() {

**using** **namespace** std;

**if** (k==6) {

k=0;

cout<<"NO RECEIPT IS PRINTED "<<endl;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::Receipt**() {

**if** (k==6) {

k=0;

cout<<"RECEIPT IS PRINTED: "<<endl;

cout<<"# OF LITERS PUMPED: "<<L<<endl;

cout<<"TOTAL CHARGE: $"<<total<<endl;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::TurnOff**() {

**if** (k==0) {

k=-2;

cout<<"GAS PUMP IS TURNED OFF "<<endl;

**return** 1;

} **else** **return** 0;

};

**int** **GasPump::showPrice**(**int** input)

{

**if**(input==16)

**return** price;

**if**(input==23)

**return** Rprice;

**if**(input==24)

**return** Sprice;

**if**(input==25)

**return** Dprice;

**return** price;

};

**int** **GasPump::showCash**()

{

**return** cash;

};

**int** **GasPump::showLitre**()

{

**return** L;

};

**int** **GasPump::showTotal**()

{

**return** total;

};

**int** **GasPump::showKValue**()

{

**return** k;

}

**void** **GasPump::showPaymentMode**()

{

**if**(w==1)

{

cout<<"Credit Card selected w="<<w;

}

**else** **if**(w==0 && k>=3)

{

cout<<"Cash selected w="<<w;

}

**else**

{

**if**(w==0)

{

cout<<"No Mode Selected w="<< w;

}

**else**

cout<<"No Mode Selected";

}

}

**void** **GasPump::showState**(**int** type)

{ //return current state of gas pump

**if**(k==6)

{

cout<<"Pump Stopped You are at State "<<"S6";

}

**if**(k==5 && w==1)

{

cout<<"Pay Credit Selected You are at State "<<"S1";

}

**if**(k==5 && w==0)

{

cout<<"Pay Cash Selected You are at State "<<"S5";

}

**if**(k==2)

{

cout<<"PayCredit Processing You are at State "<<"S2";

}

**if**(k==0)

{

cout<<"You are at state activated "<<"S0";

}

**if**(k==4 && type==4 )

{

cout<<"Regular is selected You are at State "<<"S4";

}

**if**(k==4 && type==5)

{

cout<<"Super is selected You are at State "<<"S4";

}

**if**(k==4 && type==6)

{

cout<<"Diesel is selected You are at state "<<"S4";

}

**if**(k==-2 || k==-1)

{

cout<<"GasPump is turned off";

}

**if**(k==3 && w==0)

{

cout<<"PayCash selected You are at state "<<"S3";

}

**if**(k==3 && w==1)

{

cout<<"PayCredit Selected and Approved You are at State"<<"S3";

}

};

**int** **main**()

{

GasPump p;

**int** input=1;

**int** turnoff=2;

string str;

**try**

{

**while**(input!=0)

{

**int** type;

**float** Price;

cout << "\nPlease enter a valid input:"

"\n1: Activate"

"\n2: PayCredit"

"\n3: Reject"

"\n4: Approved"

"\n5: PayCash"

"\n6: Regular"

"\n7: Super"

"\n8: Diesel"

"\n9: Cancel"

"\n10: StartPump"

"\n11: PumpLtre"

"\n12: Stop Pump"

"\n13: Receipt"

"\n14: NoReceipt"

"\n15: TurnOff/Exit"

"\n-----------------------------------"

"\n Testing Oriented Methods"

"\n-----------------------------------"

"\n16: Show Price"

"\n17: Show Cash"

"\n18: Show Total"

"\n19: Show Litre"

"\n20: Show PaymentMode(w)"

"\n21: Show State(s)"

"\n22: Show K Value(k)"

"\n23: Show Regular Price"

"\n24: Show Super Price"

"\n25: Show Diesel Price"

"\n26: Show Operations";

**if**(!(cin>>input))

{

**throw** string("Error In Input");

}

**switch**(input)

{

**case** 1:

**float** a,b,c;

cout << "\n Enter the value for Regular";

**if**(!(cin>>a))

**throw** string("Error in the Input");

cout<<"\n Enter the value for Super";

**if**(!(cin>>b))

**throw** string("Error in the Input");

cout<<"\n Enter the value for Diesel";

**if**(!(cin>>c))

**throw** string("Error in Input");

cout<<p.Activate (a,b,c)<<" Returned";

str=str+"Activate ";

**break**;

**case** 2:

cout<<p.PayCredit()<<" Returned";

str=str+"PayCredit ";

**break**;

**case** 3:

cout<<p.Reject()<<" Returned";

str=str+"Reject ";

**break**;

**case** 4:

cout<<p.Approved()<<" Returned";

str=str+"Approved ";

**break**;

**case** 5:

**float** cash;

cout << "Enter the amount";

**if**(!(cin>>cash))

**throw** string("Error in Input");

cout<<p.PayCash(cash)<<" Returned";

str=str+"PayCash ";

**break**;

**case** 6:

cout<<p.Regular()<<" Returned";

str=str+"Regular ";

type=4;

**break**;

**case** 7:

cout<<p.Super()<<" Returned";

str=str+"Super ";

type=5;

**break**;

**case** 8:

cout<<p.Diesel()<<" Returned";

str=str+"Diesel ";

type=6;

**break**;

**case** 9:

cout<<p.Cancel()<<" Returned";

str=str+"Cancel ";

**break**;

**case** 10:

cout<<p.StartPump()<<" Returned";

str=str+"StartPump ";

**break**;

**case** 11:

cout<<p.PumpLiter()<<" Returned";

str=str+"PumpLiter ";

**break**;

**case** 12:

cout<<p.StopPump()<<" Returned";

str=str+"StopPump ";

**break**;

**case** 13:

cout<<p.Receipt()<<" Returned";

str=str+"Receipt ";

**break**;

**case** 14:

cout<<p.NoReceipt()<<" Returned";

str=str+"NoReceipt ";

**break**;

**case** 15:

turnoff=p.TurnOff();

cout<<turnoff<<" Returned";

**if**(turnoff==1)

{input=0;

str="";

}

**break**;

**case** 16:

Price= p.showPrice(input);

**if**(Price==0)

{

cout<<"\n No Pump Selected Price is " <<Price;

}

**else**

{

cout<<"\n Selected Pump Price is " <<Price;

}

**break**;

**case** 17:

cout<<"\n Cash is " <<p.showCash();

**break**;

**case** 18:

cout<<"\n Total Amount Is "<<p.showTotal();

**break**;

**case** 19:

cout<<"\n No of Liters Pumped "<<p.showLitre();

**break**;

**case** 20:

p.showPaymentMode();

**break**;

**case** 21: p.showState(type);

**break**;

**case** 22: cout<<"Current K Value is "<<p.showKValue();

**break**;

**case** 23: cout<<"Regular Pump Price is "<<p.showPrice(input);

**break**;

**case** 24: cout<<"Super Pump Price is "<<p.showPrice(input);

**break**;

**case** 25:

cout<<"Diesel Pump Price is "<<p.showPrice(input);

**break**;

**case** 26:

cout<<"Operations Selected "<<str;

**break**;

**default**:

cout<<"Wrong Choice";

**continue**;

}

}

}

**catch**(string e)

{

cout<<e;

}

}