**CST8130 – Data Structures Assignment 2 – Test Plan**

Router Initialization processing

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| *Condition Description* | *Sample* | *Result* |
| User enters valid maximum entries (greater than 0) | 10 | Routing Table array is created |
| User enters invalid maximum entries | 1. -10. A | Message that size is invalid – reenter |
| User enters more than valid max entries | Adding the 11th entry | Routing table is made bigger and program continues |

Packet Processing – insert and search

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| *Condition Description* | *Sample* | *Result* |
| Packet code ‘p’ – destination network not already in table – add first | Destination: 192.168.1.1/24  Port: e0 | Add 192.168.1.0/24 into table with message saying this was added |
| Packet code ‘p’ – destination network already in table | Destination: 192.168.1.6/24 | Message that entry already exists in routing table |
| Packet code ‘p’ – destination network not in table – add to end; | Destination 192.168.6.6/24: | Add 192.168.6.0/24 into table with message saying this was added Table is now  192.168.1.0/24  192.168.6.0/24 |
| Packet code ‘p’ – destination network not in table – add to middle | Destination 192.168.4.1/24: | Add 192.168.4.0/24 into table with message saying this was added Table is now  192.168.1.0/24  192.168.4.0/24  192.168.6.0/24 |
| Packet code ‘d’ – destination found in table - beginning | Destination: 192.168.1.6/24  Data: 12344 | Display forwarding message (12344) out appropriate port (e0 in this case) |
| Packet code ‘d’ – destination found in table - end | Destination: 192.168.6.6/24  Data: 12222 | Display forwarding message (12222) out appropriate port |
| Packet code ‘d’ – destination found in table – middle | Destination: 192.168.4.6/24  Data: 12222 | Display forwarding message (12222) out appropriate port |
| Packet code ‘d’ – destination not found | Destination: 192.168.3.6/24  Data: 12222 | Display dropping data packet message |