



Software Testing and Quality Assurance

Assignment # 4

White box testing and unit test

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1. Method [add]

paths

- $s \rightarrow (22,23) \rightarrow E$



2. Method [subtract]

paths

- $s \rightarrow (27,28) \rightarrow E$



3. Method [multiply]

paths

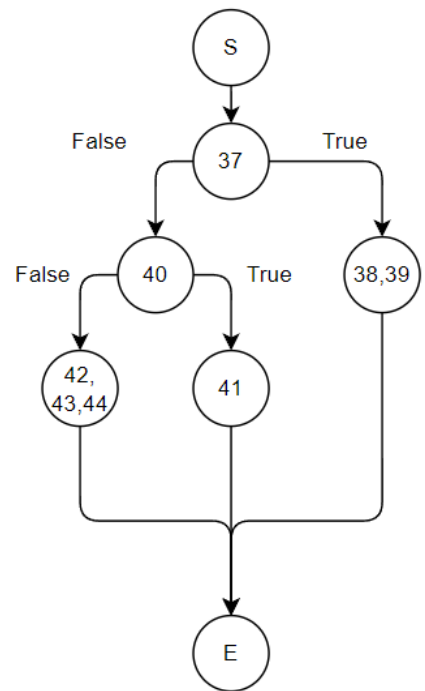
- $s \rightarrow (32,33) \rightarrow E$



4. Method [divide]

paths

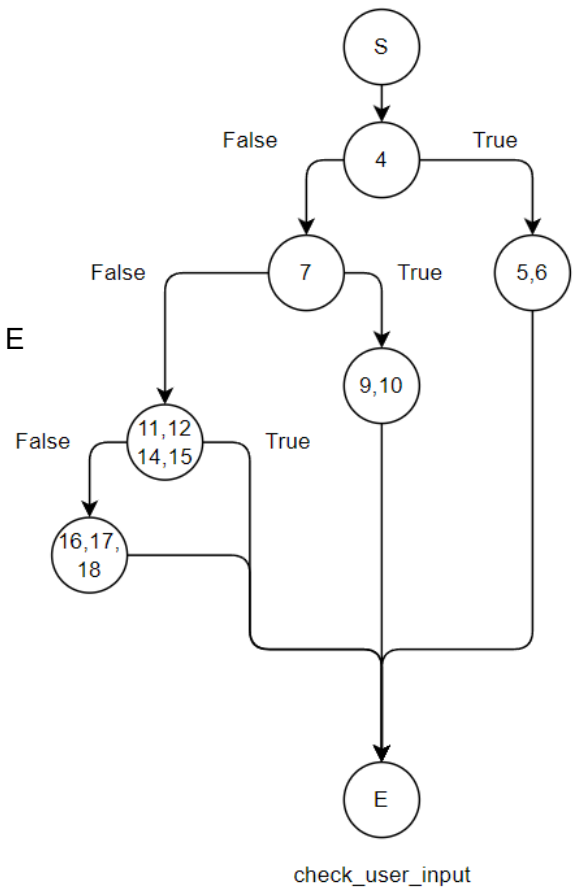
- s -> 37 -> (38, 39) -> E
- s -> 37 -> 40 -> 41 -> E
- s -> 37 -> 40 -> (42,43,44) -> E



5. Method [check_user_input]

paths

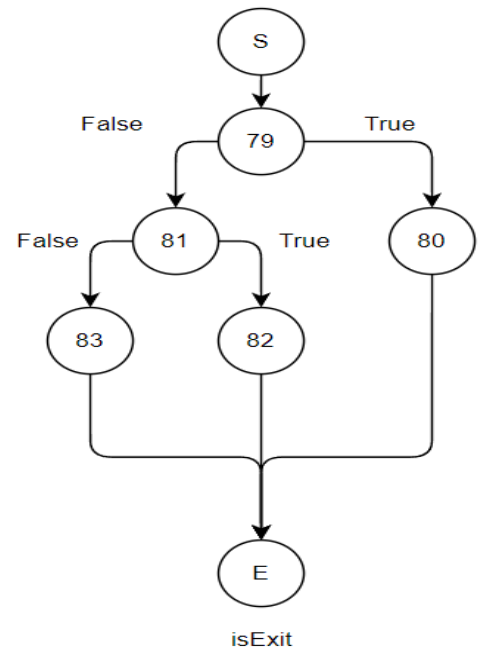
- s -> 4 -> (5, 6) -> E
- s -> 4 -> 7 -> (9,10) -> E
- s -> 4 -> 7 -> (11,12,14,15) -> E
- s -> 4 -> 7 -> (11,12,14,15) -> (16,17,18) -> E



6. Method [isExit]

paths

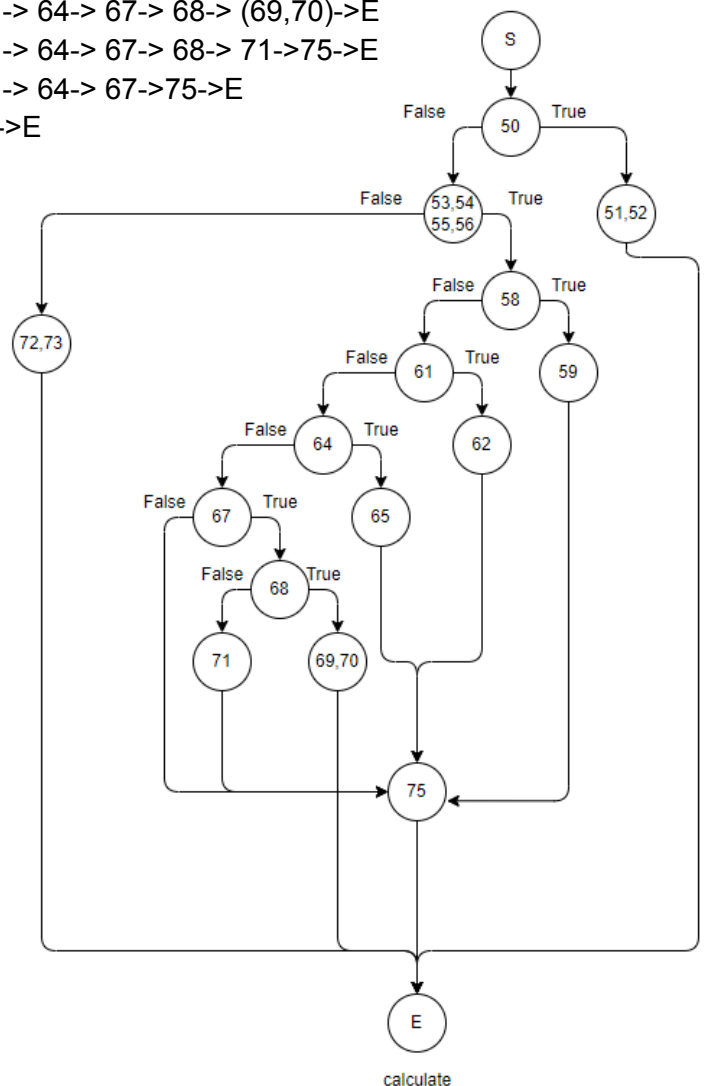
- s -> 79-> 80 -> E
- s -> 79 -> 81 -> 82 -> E
- s -> 79-> 81-> 83-> E



7. Method [calculate]

paths

- s -> 50-> (51,52) -> E
- s -> 50-> (53,54,55,56) -> 58-> 59-> 75-> E
- s -> 50-> (53,54,55,56) -> 58-> 61-> 62-> 75-> E
- s -> 50-> (53,54,55,56) -> 58-> 61-> 64-> 65-> 75-> E
- s -> 50-> (53,54,55,56) -> 58-> 61-> 64-> 67-> 68-> (69,70)-> E
- s -> 50-> (53,54,55,56) -> 58-> 61-> 64-> 67-> 68-> 71-> 75-> E
- s -> 50-> (53,54,55,56) -> 58-> 61-> 64-> 67-> 75-> E
- s -> 50-> (53,54,55,56) -> (72,73)-> E



The minimal number of paths that achieve 100% code statement coverage

- s -> (32,33) -> E
- s -> (27,28) -> E
- s -> (22,23) -> E