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Assignment # 4 +5

Section: S1

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Table of Contents

CASE STUDY:.....	3
MCDC:	3
1.1 Decision Statements	3
2.1 Implementation:	4
1.2 Decision Statement.....	4
2.2 Implementation:	4
1.3 Decision Statement.....	5
2.3 Implementation:	5
Path Prediction Expression	7
Prediction 1	7
Path	7
Expression	7
Prediction 2	7
Path	7
Expression	7
Prediction 3	7
Path	7
Expression	7
Prediction 4	7
Path	7
Expression	7
Test Oracle	8

CASE STUDY:

The government has decided to change policy for the driving license. Now in order to apply you have to meet the criteria and also have to pass 2 exams. The exam will be held on same day and the attendee have to pass both the tests in order to receive the license otherwise, he/she will have to try again when eligible or with better preparation.

Following are the conditions that should be meet.

1. Test1 = Age \geq 18 and Verbal test score >80 and Theory test score >86
2. Test2 = Parking score ≥ 80 and Driving skills score > 80 and Breaking Traffic law score < 15 .
3. Now the both tests should be passed or to be accurate both have to be true in order to get a license otherwise not.

MCDC:

1.1 Decision Statements

INPUT

OUTPUT

Age	Verbal Test Score	Theory Test score	age \geq 18 && verbaltestscore >80 && theorytestscore >86
T	T	T	T
T	T	F	F
T	F	T	F
T	F	F	F
F	T	T	F
F	T	F	F
F	F	T	F
F	F	F	F

2.1 Implementation:

INPUT

OUTPUT

Age	Verbal Test Score	Theory Test Score	Result
18	85	90	T
19	85	20	F
20	70	91	F
20	70	50	F
10	90	95	F
10	90	40	F
15	60	95	F
14	60	76	F

1.2 Decision Statement

INPUT

OUTPUT

Parking Score	Driving Skill Score	Breaking Traffic law Score	Parkingscore>=80 && drivingskillscore>80 && breakingtrafficlawscore<15
T	T	T	T
T	T	F	F
T	F	T	F
T	F	F	F
F	T	T	F
F	T	F	F
F	F	T	F
F	F	F	F

2.2 Implementation:

INPUT

OUTPUT

Parking Score	Driving Skill Score	Breaking Traffic Law	Result
80	81	10	T
85	70	20	F
90	85	8	F
90	70	30	F
70	90	2	F
60	40	40	F

50	90	5	F
40	20	80	F

1.3 Decision Statement

INPUT

OUTPUT

TEST 1	TEST 2	RESULT
T	T	T
T	F	F
F	T	F
F	F	F

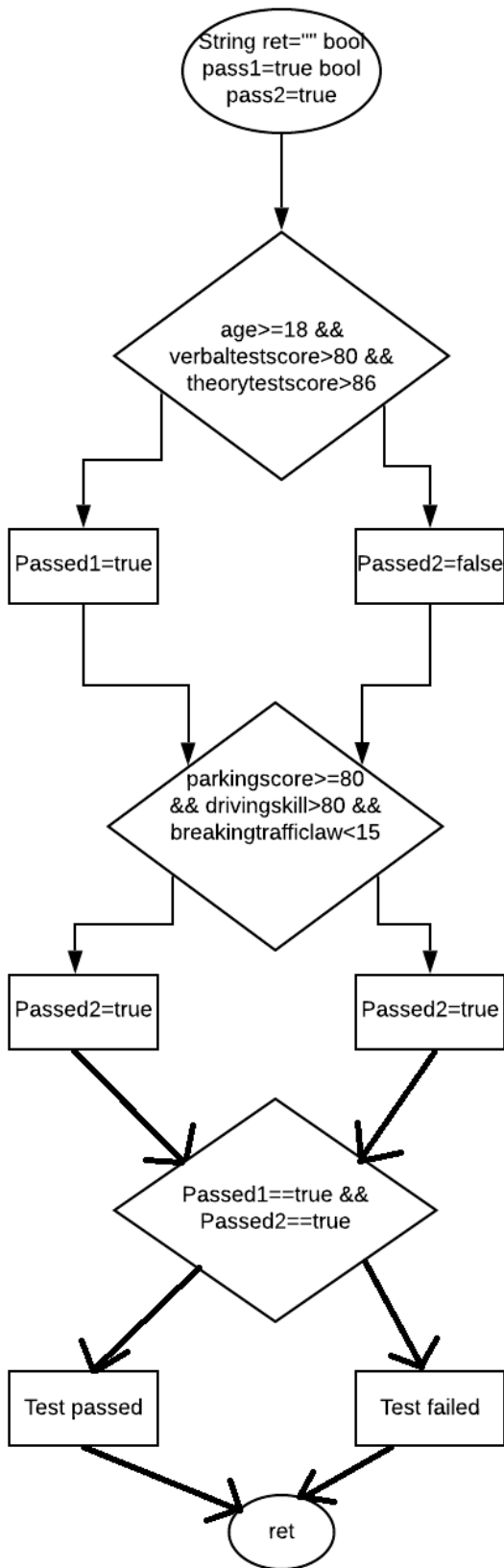
2.3 Implementation:

In this case both the Test1 and Test2 have bool values that's why they are given T or F values.

INPUT

OUTPUT

TEST 1	TEST 2	RESULT
T	T	T
T	F	F
F	T	F
F	F	F



Path Prediction Expression

Prediction 1

Path

1 -> 2 -> 3 -> 5 -> 6 -> 8 -> 9 -> 11

Expression

{age>=18 && verbeltest>80 && theorytest>86, parkingscore>=80 && drivingskillsscore>80 && breakingtrafficlawsscore<15, passed1==true && passed2==true}

Prediction 2

Path

1 -> 2 -> 3 -> 5 -> 7 -> 8 -> 10 -> 11

Expression

{age>=18 && verbeltest>80 && theorytest>86, parkingscore<=80 && drivingskillsscore>80 && breakingtrafficlawsscore<15, passed1==true && passed2==false}

Prediction 3

Path

1 -> 2 -> 4 -> 5 -> 6 -> 8 -> 10 -> 11

Expression

{age>=18 && verbeltest<80 && theorytest>86, parkingscore>=80 && drivingskillsscore>80 && breakingtrafficlawsscore<15, passed1==false && passed2==true}

Prediction 4

Path

1 → 2 → 4 → 5 → 7 → 8 → 10 → 11

Expression

{age>=18 && verbeltest<80 && theorytest>86, parkingscore>=80 && drivingskillsscore<80 && breakingtrafficlawsscore<15, passed1==false && passed2==false}

Test Oracle

Expect Outcome 1: "You have passed the TEST"

Expect Outcome 2: "TestFailed."

Path	Inputs						Actual Outcome	Expected Outcome
	Age	Verbeltest	Theorytest	parkingscore	drivingsscore	breakingtrafficclaws		
1 -> 2 -> 3 - > 5 -> 6 -> 8 -> 9 - >11	18	85		13	25	50	You have passed the TEST	You have passed the TEST
1 -> 2 -> 3 - > 5 -> 7 -> 8 -> 10 ->11	10	2	12	15	20	30	TestFailed	TestFailed
1 -> 2 -> 4 - > 5 -> 6 -> 8 -> 10 ->11	18	4	10	14	0	20	TestFailed	TestFailed
1 → 2 → 4 → 5 → 7	9	0	10	16	0	30	TestFailed	TestFailed

→ 8 → 10 → 11								
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