# Criteria

Winner time

Average Speed

Category of the track

# Predicates

Winner Time > 0, < 0 (sign of winner time)

Average Speed >0,<0 (sign of average speed)

Category of the track =A,=B,=C, !=A,B,C (value of category)

# Boundaries

Winner Time 🡺 mindouble,-1,0,1,maxdouble

Average Speed 🡺 mindouble,-1,0,1,maxdouble

* Category bounds 🡺 29,30,31,34,35,36

Category of the Track 🡺 =A,=B,=C, !=A,B,C

Examples:

computeMaxTime(50, 27, 'A') -> 50 + 50\*0.05 = 52.5

computeMaxTime(60, 33, 'B') -> 60 + 60\*0.25 = 75

computeMaxTime(80, 40, 'C') -> 80 + 80\*0.5 = 120

# Equivalence classes and test

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Winner Time | Average Speed | Value of Category | Valid/Invalid | Test Case |
| ]0,maxdouble] | ]0,30] | A | V | T1(50,27,A) -> 50 + 50\*0.05 = 52.5 |
| ]0,maxdouble] | ]30,35] | A | V | T2(50,33,A) -> 50 +50\*0.1 = 55 |
| ]0,maxdouble] | ]35,maxdouble] | A | V | T3(50,40,A) -> 50+50\*0.15=57.5 |
| ]0,maxdouble] | ]0,30] | B | V | T4(50,27,B) -> 50 + 50\*0.2 = 60 |
| ]0,maxdouble] | ]30,35] | B | V | T5(50,33,B) -> 50 +50\*0.25 = 62.5 |
| ]0,maxdouble] | ]35,maxdouble] | B | V | T6(50,40,B) -> 50+50\*0.3=65 |
| ]0,maxdouble] | ]0,30] | C | V | T7(50,27,B) -> 50 + 50\*0.5 = 75 |
| ]0,maxdouble] | ]30,35] | C | V | T8(50,33,B) -> 50 +50\*0.5 = 75 |
| ]0,maxdouble] | ]35,maxdouble] | C | V | T9(50,40,B) -> 50+50\*0.5=75 |
| \* | \* | =! A,B,C | I | T10(…,…,D) -> 0(error) |
| [0,maxdouble] | [mindouble,0] | n/a | I | T11(12,-1,…) -> 0(error) |
| [mindouble,0] | [0,maxdouble] | n/a | I | T12(-1,12,…) -> 0(error) |
| [mindouble,0] | [mindouble,0] | n/a | I | T13(-2,-5,…) -> 0(error) |

# Criteria

Exercise1

Exercise 2

lab

# Predicates

Exercise 1 <0,>0 (sign of exercise1)

Exercise 2 <0,>0 (sign of exercise2)

Lab =0,=1

Formula 1 🡺 Exercise 1 + Exercise 2 >=18

# Boundaries

Exercise 1 🡺 minint,0,15,7,maxint

Exercise 2 🡺 minint,0,15,7,maxint

Lab 🡺 0,1, !=0,1

Formula 1 no boundaries (depends on the input)

Examples:

has\_passed\_exam(8, 8, 0); 0

has\_passed\_exam(10, 10, 0): 1

has\_passed\_exam(14, 4, 0): 0

has\_passed\_exam(0, 5, 1): 0

has\_passed\_exam(0, 10, 1): 1

# Equivalence classes and test

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Exercise 1 | Exercise 2 | Lab | Formula 1 | Valid/Invalid | Test Case |
| [minint,-1] | n/a | n/a | n/a | I | T1(-5,…,…) ->Error  TB(-1,…,…) ->Error |
| n/a | [minint,-1] | n/a | n/a | I | T2(…,-5,…) ->Error  TB(…,-1,…) ->Error |
| [16,maxint] | n/a | n/a | n/a | I | T3(25,…,…) ->Error  TB(16,…,…) ->Error |
| n/a | [16,maxint] | n/a | n/a | I | T4(…,25,…) ->Error  TB(…,16,…) ->Error |
| n/a | n/a | [minint,-1] | n/a | I | T5(…,…,-5) ->Error  TB(…,…,-1) -> Error |
| n/a | n/a | [2,maxint] | n/a | I | T6(…,…,8) -> Error  TB(…,…,2) -> Error |
| [7,15] | [7,15] | 0 | T | V | T7(10,10,0) ->1  TBex(15,15,0) ->1  TBf(10,8,0)->1 |
| [7,15] | [0,6] | 0 | T | V | T8(15,3,0)->0  TBex(12,6,0) ->0  Tbf=Tbex |
| [0,6] | [7,15] | 0 | T | V | T9(3,15,0)->0  TBex(6,12,0) ->0  Tbf=Tbex |
| [7,15] | [7,15] | 0 | F | V | T10(8,8,0)->0  TBex(7,7,0) ->0  TBf=(9,8,0) ->0 |
| [7,15] | [0,6] | 0 | F | V | T11(10,5,0) ->0  TBex(10,6,0)->0  TBf(13,4,0)->0 |
| [0,6] | [7,15] | 0 | F | V | T12(5,10,0) ->0  TBex(6,10,0) ->0  TBf(5,12,0)->0 |
| [0,6] | [0,6] | 0 | F | V | T13(5,5,0)->0  Tbex(6,6,0)->0  Tbf not possible |
| [7,15] | [7,15] | 1 | T | V | T14(10,10,1) ->1  TBex(15,15,1) ->1  TBf(10,8,1)->1 |
| [7,15] | [0,6] | 1 | T | V | T15(15,3,1)->0  TBex(12,6,1) ->0  Tbf=Tbex |
| [0,6] | [7,15] | 1 | T | V | T16(3,15,1)->1  TBex(6,12,1) ->1  Tbf=Tbex |
| [7,15] | [7,15] | 1 | F | V | T17(8,8,1)->1  TBex(7,7,1) ->1  TBf=(9,8,1) ->1 |
| [7,15] | [0,6] | 1 | F | V | T18(10,5,1) ->0  TBex(10,6,1)->0  TBf(13,4,1)->0 |
| [0,6] | [7,15] | 1 | F | V | T12(5,10,1) ->1  TBex(6,10,1) ->1  TBf(5,12,1)->1 |
| [0,6] | [0,6] | 1 | F | V | T13(5,5,1)->0  Tbex(6,6,1)->0  Tbf not possible |