Minister of Education, Culture and Research of Moldova

Technical University of The Republic of Moldova

Software Engineering and Automatics

REPORT

Homework

Check the triangle type according to the sides

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Prerequisites:

- Decision table.
- Equivalence classes

Objectives:

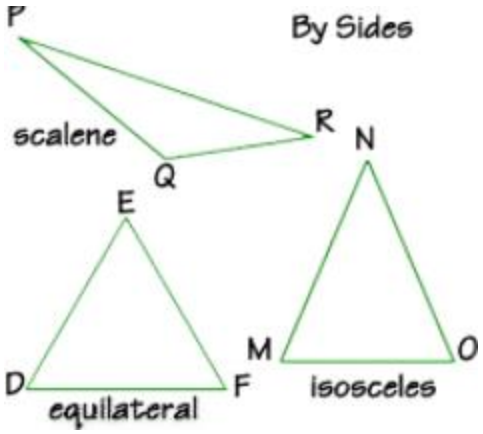
- Understand the notion about equivalence classes and decision table.
- Checking the boundary values.

Tasks:

1. Research the type of triangle according to the sides.
2. Check the equivalence classes.
3. Check the decision table.
4. Check the state-transition and cause-effect relations.

Implementation of task:

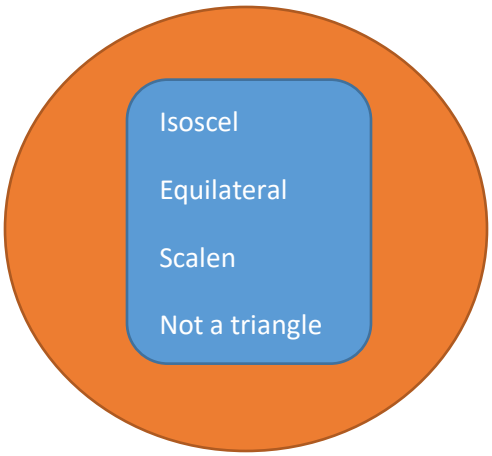
We take the side of the triangle as a input number a,b and c. The output of the system should be the type of triangle according to the sides.

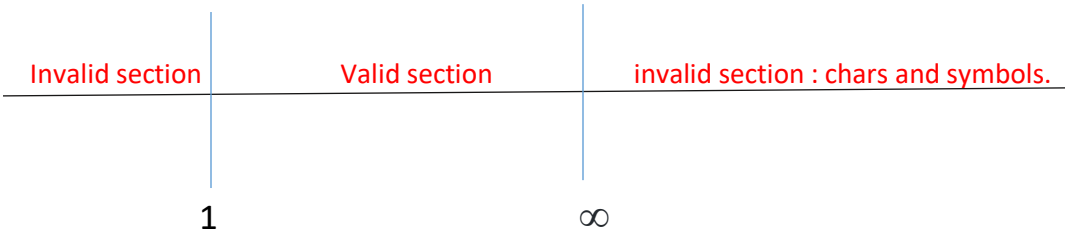


Equivalence classes :

- Positive numbers - [1,∞)
- Negative numbers – (-∞,0)
- Characters and symbols.- (@,c)

- valid inputs.
- Invalid inputs





Decision Table

Conditions	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11
$a > b + c$	T	F	F	F	F	F	F	T	T	T	-
$b > c + a$	-	T	F	F	F	F	F	T	T	T	-
$c > b + a$	-	-	T	F	F	F	F	T	T	T	-
$a = b$	-	-	-	T	F	F	T	F	T	T	-
$b = c$	-	-	-	T	F	T	F	F	T	F	-
$a = c$	-	-	-	T	T	F	F	F	F	T	-
Result											
Not a triangle	✓	✓	✓								
Isosceles					✓	✓	✓				
Equilateral				✓							
Scalene								✓			
Impossible									✓	✓	✓

*for the last combination the "-" means that we introduce characters or symbols.

State-transition

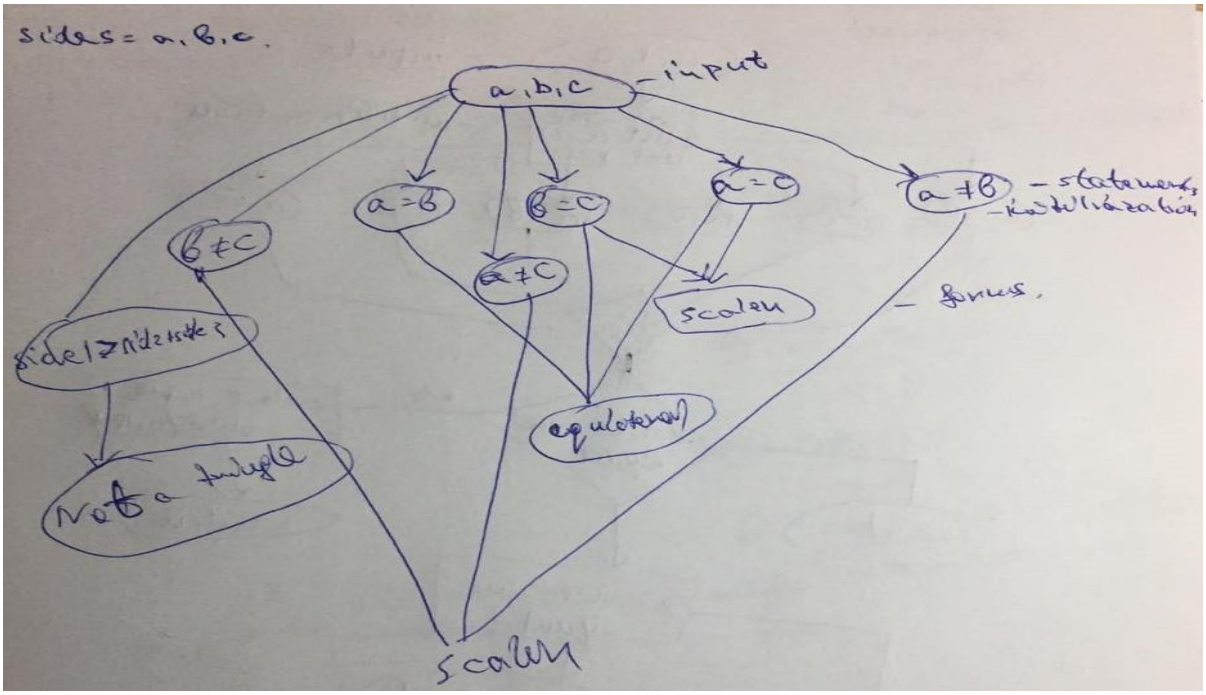


Fig.1: State-transition representation

Cause-effect

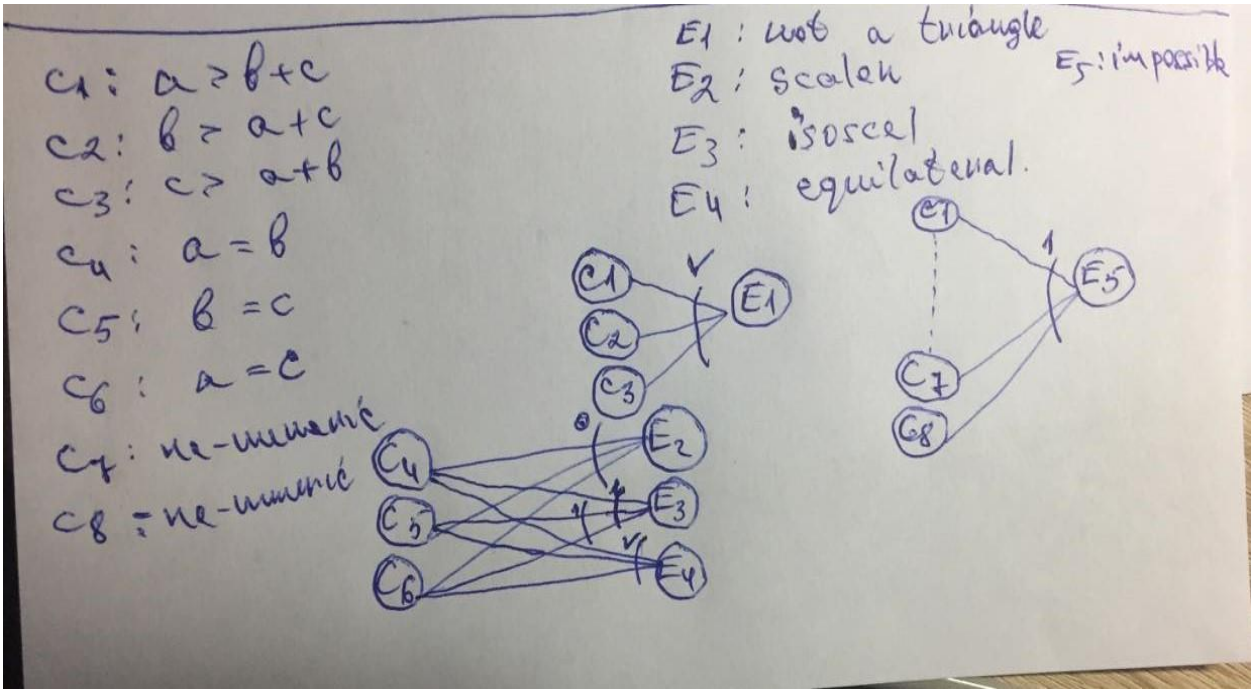


Fig.2: Cause-effect representation

Conclusion:

In this practical tasks I obtained skills operating basic tools of testing the product. Also, I have learned the concepts of testing the valid/invalid values and boundaries. Next, I learned to analyze the problem from different sides, which means test the product. Coverage the whole logic of the product also should be performed in process of testing. Here , the converging the whole application imply several types of converging : instructions, branches and decisions.