1. SUMMARY

An examination and education system for clinical disciplines of medicine provides an efficient method for testing the state of students' or doctors' knowledge. An examination consists of the following tests:

basing on the patient's data and symptoms some essential investigations should be chosen, then a diagnosis should be selected and finally a proper treatment method should be chosen.

Each choice could change the score / negative points are allowed / and is always followed by comments. The kind of this system response might depend on several former choices / so called dependent responses /. Items in the presented lists are displayed in a random order which is generated for each test execution.

Up to 16 students might be simultaneously examined by system running on the SM4 computer / PDP 11/40 /.
2. TEST STRUCTURE

The aim of a test is to make the student solve problems similar to the real life ones. Each test consists of an introduction and three decision stages.

The introduction contains the student's situation /"you are in the street", "you are at the hospital", etc./ and short summary of the patient's case.

The three decision stages are:

- the investigation stage: choose an investigation method which results will afford possibilities for diagnosis,
- the diagnosis stage: choose the proper diagnosis basing on the results of the former stage,
- the treatment stage: choose the adequate treatment method.

Each choice is made by typing in the selected number when presented with numbered lists.

The described test structure was given in /1/. However, basing on /2/ and our own experiments, the following new elements were incorporated:

- the student's situation as a part of the introduction,
- the score,
- the dependent responses,
- the random order of items in the lists.

Details are given below.

The system responds to any choice by the comments and by the number of points /positive or negative/. The lists of choices with the corresponding comments were worked out by the experienced physicians and were adapted by the computer staff. Both proper and wrong choices were included, so only few choices lead to the next stage:

- the diagnosis stage must be preceded by the proper investigation program,
- the treatment stage must be preceded by the correct diagnosis.

The test structure is shown in fig.1.

An additional question "Are the collected data sufficient for further procedure?" is asked on the path between the investigation and diagnosis stages. This question enables further investigations