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Module 1: Introduction to test automation

## home task

As a basis for this home task, take SUT (system under test) of your current project.

1. Think about things below:

* Is it necessary to set up test automation processes for this SUT? Why?
* What should/could be automated for this SUT? Why? How?

Write a short essay answering the questions above.

1. Define and collect information and criteria for calculating ROI (Return of Investments) value for this SUT. Provide rationale of your calculation with description on each step.

As a formula for ROI you may use simplified one (that is based on man-hours approach) as:

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CM – cost of manual testing (man-hours)

I – investments into automation (man-hours)

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FW – time spent for implementing framework;

S – time spent for creating TA scenarios;

E – time spent for tests execution (human job);

R – time spent for results analyzing.

**Sample of calculation:**

Project X has stable SUT with long-term perspective of supporting as 5 years. Average time required for manual testing is 20 man-hours per week.

Cost of manual testing: 20 man-hour per week \* 52 weeks \* 5 years = 5200 man-hours

TAF Implementation: 80 man-hours

Time spent for creating automated scenarios: 40 man-hours per week during 6 months: 1120 man-hours

Automated test execution & result analyzis: 8 man-hours per week \* 5 years \* 52 = 2080 man-hours

ROI = (5200-(80+1120+2080))/(80+1120+2080)= 58.5%

## BONUS TASK:

1. Use **ROI calculator from additional materials provided “**AutoTest-ROI-Calculator.xls” for detailed ROI calculation.
2. Create detailed automation plan similar to EPAM test plan template.

## acceptance criteria

1. Answer is given for a question: “Why/why not” it’s necessary to set up automation processes for the project?
2. Answers are given for questions: What should/could be automated? Why? How?
3. ROI is calculated.
4. There should be descriptions provided for each step of ROI calculation.
5. There should be clear conclusion about the results of ROI calculation.
6. Bonus task: detailed plan is done according to the template
7. Bonus task: screenshots of detailed calculations in **Online ROI calculator** view are provided to a mentor.