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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.

* + - * Smoke tests implemented first & executed after every build
      * Every team member notified about the result immediately
      * Single point to monitor and track progress, correlating to manual (general test coverage)
      * Automation covers repeatable and stable scenarios
      * Manual testing remains on exploratory testing and not stable scenarios
      * Automation prevents defects

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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Equity Management project is supposed to be long – 1 year.

800 regression testcases are automated. Regression testing are performed every sprint (duration of the sprint is three weeks)

30 sprints per year – number of sprints during the year

In average manual tester spend 30 min to execute 1 testcase and 30 min were spent to create 1 testcase.­­­­­

Cost of manual testing: CM = 800\*0.5 man-hour \* 30 sprints per year \* 1years +800 \* 0.5 = 12400 man-hours

One autotester spent four months to implement framework

FW = 1 man \* 168 hours per month \* 4 months = 672 man-hours

In average 1 autotester spend 8 hours to create 1 TA scenario

S = 800 testcases \* 8 man-hours = 6400 man-hours

E = 0,25 hours \* 30 sprints per year \* 1years = 7.5 man-hours

R = 4 hours \* 30 sprints per year \* 1years = 120 man-hours

I= FW + S + E + R = 672 + 6400 + 7.5 + 120 =7199.5 man-hours

ROI = (CM-I)/I = (12400 – 7199.5)/ 7199.5 = 72.23 %

## BONUS TASK:

1. Use **Online ROI calculator (requires flash enabled):**

<http://www-01.ibm.com/software/rational/offerings/testing/roi/tool/ROI_Rational.html>

1. 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.