

INF5181 – Exercises related to Measurement/GQM (Lecture 06)

Exercise A.

Assume you measured 10 software programs X1, X2, ..., X10 using Lines of Code (LOC) as a measure. The results are as follows:

Module	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
Size [KLOC]	100	150	70	80	100	90	110	200	40	60

A.1) In the example above, what are the following:

- Entity being measured?
- Attribute (also called: property, characteristic) being measured?
- Scale type (sometimes called: Scale)?
- Range (sometimes called: Scale)?
- Unit?

A.2) In the example above, what are the following: Mode, Median, Arithmetic Mean?

A.3) Is LOC a subjective or objective measure? Support your answer with arguments.

Exercise B.

GQM goal template: Analyze **<Object(s) of interest>**
for the purpose of **<Purpose>**
with respect to their **<Quality focus>**
from the point of view of the **<Perspective>**
in the context of **<Context>**

Using the GQM goal template above, define measurement goals for the following situations:

B.1) You are interested in understanding the accuracy of the cost estimations made by the project managers in development organization ABC.

B.2) A development team in ABC wants to predict the correctness of their code.

B.3) The manager of ABC wants to evaluate the productivity of the project teams in ABC.

Exercise C.

C.1) Pick one of the measurement goals defined in exercise B and formulate related questions

C.2) For the question formulated in C.1, define related basic measures and derived measures (models); recall that a proper definition of a measure needs: object (entity) and attribute being measured, scale type, range, unit.

C.3) For the measures in C.2, what additional information would be needed to define the measurement plan?