

The American University in Cairo
School of Sciences and Engineering
Associate Dean for Undergraduate Studies
ENGR 3202-01: Engineering Analysis and Computation

Summer 2023

Dr. Mohamed Rashed

Due Date: Final Exam

Project #2

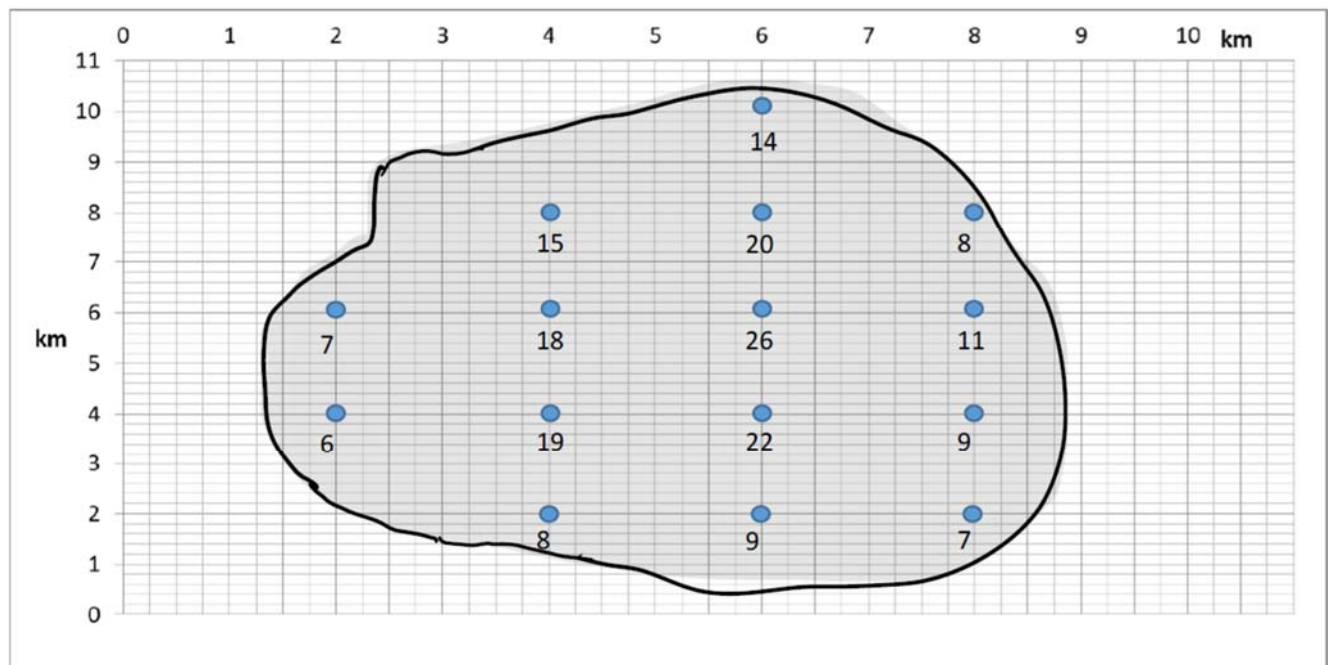
Title: A computational tool for calculating the average value.

Theme: Multi-dimension Numerical Integration

Problem Considered:

- Problem statement:

The figure below illustrates the plan of a lake along with the depth of the lake at various points.



Students are required to develop a generic computational tool for calculating the average depth of the lake, using the most accurate numerical method(s).

- *Deliverables:*

Students are required to submit the whole project on BB including the computer program as well as a softcopy of the project report.

The computer program should be developed by the students themselves and presented in the appendix of the project report.

The report should include the problem definition, the solution algorithm, the verification and the validation of the computer program, and the application on at least one practical problem.

Group size: The same as that of project 1