ENGG1003 - Monday Week 6

Interpolation, Assignment 1 and Mid-term quiz

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Lecture overview

1. Interpolation
2. Assignment 1
3. Mid-term quiz

The story so far

- see SJJ lecture thursday week 5
- xxx
- xxx

1) Interpolation

Compare and contrast, both special cases of *curve-fitting*

- interpolation—today
- regression—later in course
- demonstrate both with the same small dataset

- regression: curve-fitting (eg: fitting a straight line)
  - obtain a "functional form" eg: identify a model, F=kx for Hookes' law
  - too much data
  - simplify data down to a straight line (plus noise)
- interpolation: joining the dots
  - obtain value of y at some intermediate point
- both involve creating a function from data
  - that requires some explanation! so let's do that

Functions

- review mathematical functions: week 5 Monday lecture, page 3
- function f takes data point x and returns $y = f(x)$
- review in PyCharm

- XXX

- XXX

- XXX

- XXX

- XXX

2) Assignment 1

- key dates: out, due date for submission
- counts for 20% of course grade
- how assessed: in lab, week 7 (after recess)
- the basic ideas behind the lab
- this weeks 2-hr face-face lab:
  - get started on the assignment
  - there isn't a week 6 lab sheet: assignment in place of work sheet

3) Mid-term quiz

- Thursday 1 April, 4–5pm
  - during scheduled lecture time
  - but there will not be any Zoom or YouTube livestream on 1 April
- 40-minute quiz
- open-book
- quiz will appear on BB at 4:15pm
- counts for 15% of course grade
- what you'll be asked

- what you can do to prepare for the quiz
  - read THIS csv— can get started now!
  - you'll be asked to write Python code to do some calculations on a specified column
  - enter your results into BB
  - cut-and-paste code into BB
- can practice NOW in BB
- demo to class in lecture

- XXX

- XXX

Lecture summary

- Interpolation
  - linear interpolation (straight line "join the dots")
  - cubic spline
- Assignment 1
  - xxx
- Mid-term quiz
  - xxx