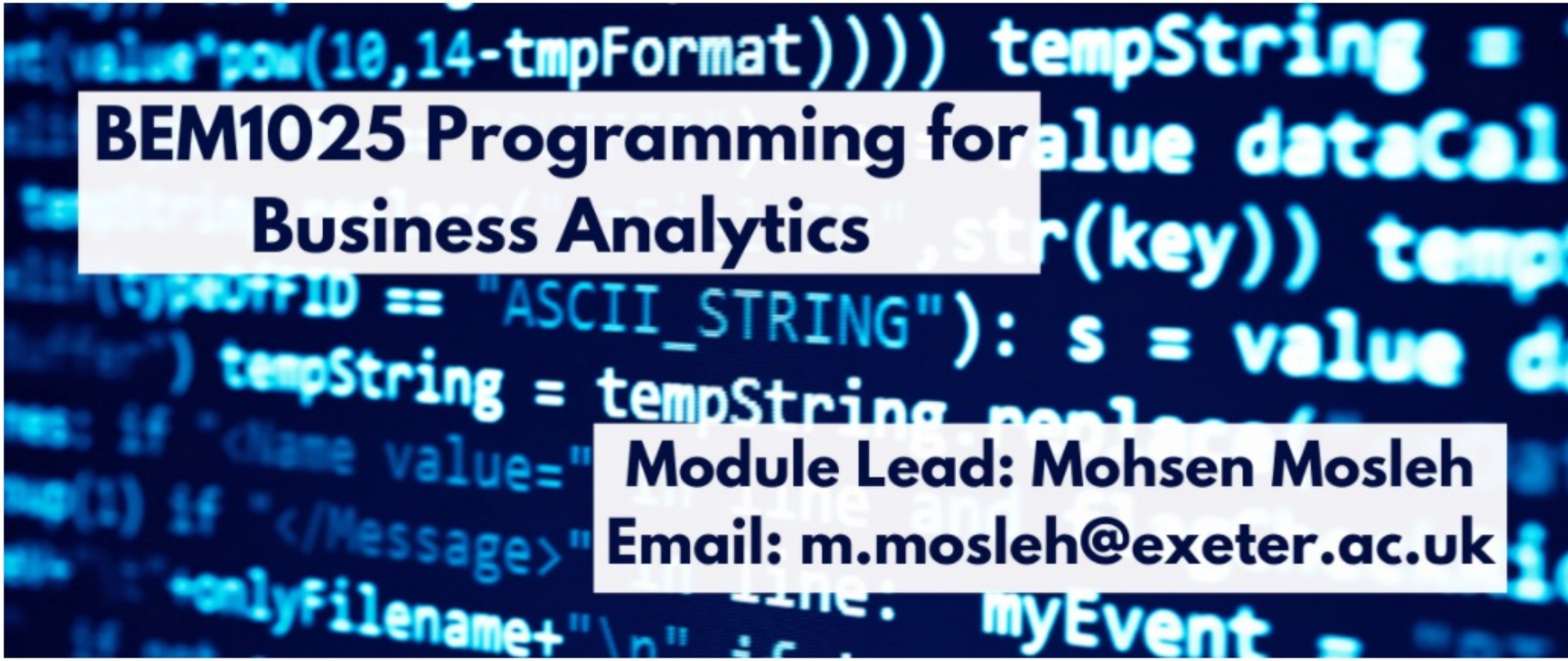
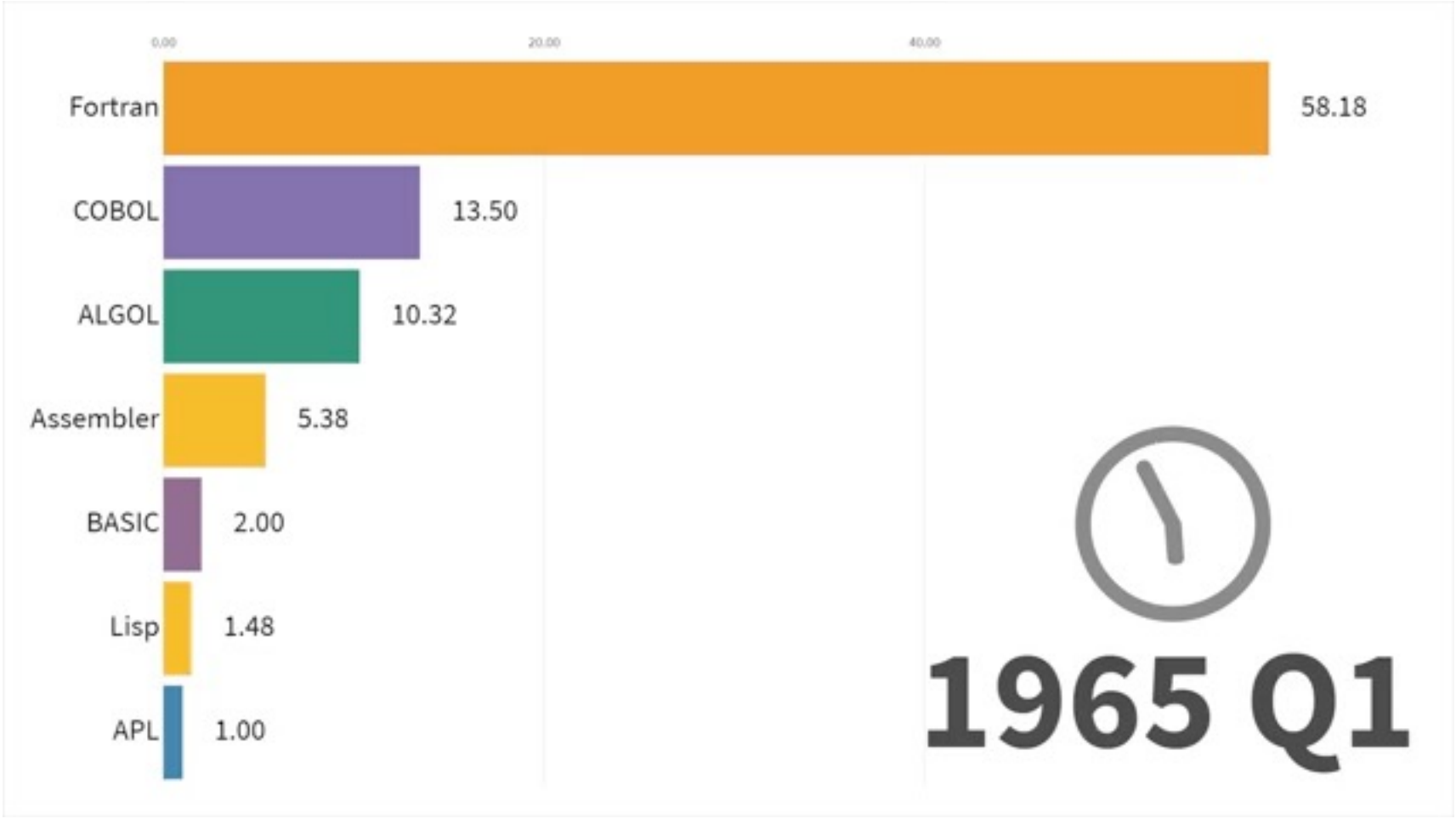

BEM1025 Programming for Business Analytics
Module Lead: Mohsen Mosleh
Email: m.mosleh@exeter.ac.uk

Programming language popularity over time



Welcome to BEM 1025!

Outline

- Warm up! (nice to meet you!)
- Introduction to BEM 1025
- Introduction to Github, Jupyter, and Binder

About me!

Background

- Lecturer in SITE department, Alan Turing Fellow
- Undergraduate in **Electrical Engineering**
- Masters in Business Administration **(MBA)**
- Systems & Software Integration **Lead for five years**
- PhD in Systems **Engineering**, Minor in Business Analytics
- Postdoc at Yale Department of **Psychology**
- Postdoc at MIT Sloan School of **Management**

Research

- Social Network
- Misinformation and information bias

My TED talk: shorturl.at/fsGT9

What about you?

shorturl.at/kyKX2

(5 min)

In this module you will learn **fundamental programming skills** that enable you to search and sort data. You will be introduced to programming in **Python and R**, and will learn how to develop and run programmes in **Jupyter Notebooks**. You will learn key programming principles and will practice applying them to real business problems. These skills will form the basis of your ability to address **business problems using data**.

Module meetings

- Whole Cohort Lecture (Tuesday 15.35-16.25)

Main lecture delivery, presentation of concepts

- Workshop: Monday 12:35-13:25 , Thursday 10:30-11:30 [remote] , Friday 9:35-10:25 depending on your individual timetable

Hands-on programming and Q&A

Depending on timing, we will also cover other material such as introduction to R, professional career in data analytics.

Indicative Teaching Schedule - 2022	
Week 01 18/1/22	Session 01: Introduction to the module Introduction to GitHub, Jupyter, and Binder. No workshop this week –
Week 02 25/1/22	Session 02: Introduction to Pandas
Week 03 1/2/22	Session 03: Data Processing and Data Analysis
Week 04 8/2/22	Session 04: Data Assembly
Week 05 15/2/22	Session 05: 2hr lab based, open-book practical exam (40% of credit)
Week 06 22/2/22	No Lecture – reading week
Week 07 1/3/22	Session 06: Data Transformation
Week 08 8/3/22	Session 07: Data Visualization
Week 09 15/3/22	Session 08: Functions
Week 10 22/3/22	Session 09: Introduction to R/invited speaker Workshop: Q&A and preparing for exam
Week 11 29/3/22	Session 10: 2hr lab based, open-book practical exam (no tutorial session)

Assessment

Form of assessment	% of credit	Size of the assessment (eg length / duration)
Coursework	40	2hr lab based, open-book practical exam
Practical exam	60	2hr lab based, open-book practical exam

- We could organize in class online tests so that there is a time window (e.g., 6 hours) that students can start it at any point within that. However, the test itself is only 2hr.

Assessment

- You will apply the concepts and techniques you leaned in previous sessions. You are expected to work on the assignments on your own DURING the duration of the lab.

- You will be given a dataset in a jupyter-notebook where you need to address a set of questions regarding the dataset where you need to apply relevant options (e.g., sorting, filtering, columns operation, simple statistics, such as max, min, mean, grouping, and visualization).

- We will have exam prep sessions!

- You are expected to submit the code developed for each assignment AT THE END of the session.

Any questions on the course logistics?

Recommended Reading

- **Think Python**, Allen B, Downey, O'Reilly, second edition
- You may also find the following book useful for learning more about R. It is freely available online, and also available in printed format in the university library:
- **R for Data Science**, Haley Wickham and Garrett Grolemund, O'Reilly, 2016
- There are further useful resources on the Python and R websites. Further information and resources for the Jupyter Notebook interactive development environment are available on the Jupyter website.

What makes a programming language popular?

What makes a programming language popular?

- Easy to use by people from different level of technical background
- Used by large software companies
- Open-source and availability of packages and sharing code
- Being used on different Operating Systems and platforms

1. Read the handbook and ask questions.
2. I will keep the BEM 1025 GitHub Repository updated
3. Go to ELE and review reading material

Contacting me

1. MS Teams
    a. MS Team is set up for communication.
    b. Chat with me any time. Have teams open all day
    c. You can book a meeting with me as well.
    d. https://calendly.com/m-mosleh/bem1025
2. Email
    a. M.mosleh@exeter.ac.uk
    b. Include [BEM 1025] in the subject line

Lets get started!

- Primary tasks for today!
  - **GitHub**
  - **Binder**
  - **Jupyter**

  - https://github.com/mosleh-exeter/BEM1025