GAC017 Computing III: Data Science and Web Apps

GAC Computing · Vocabulary in context

Word	Example
database /ˈdeɪtəbeɪs/	Scientists put DNA sequences into a **database** that anyone can search. DNA
web app /web æp/	A **web app** runs in the browser.
data analysis project /ˈdeɪtə əˈnæləsɪs ˈprɒdʒekt/	In the **data analysis project**, you clean a dataset and answer a question.
front end /frʌnt end/	The **front end** is the part of the app the user sees.
back end /bæk end/	The **back end** runs on the server and stores the data.
server /ˈsɜːvə/	The **server** stores the school's files.
request /rɪˈkwest/	The browser sends a **request** to the server.
response /rɪˈspɒns/	The server sends a **response** to the browser.
API /ˌeɪ piː ˈaɪ/	The weather **API** gives our app today's temperature.
route /ruːt/	The **route** /students shows the list of students. /students
Validate input /ˈvælɪdeɪt ˈɪnpʊt/	**Validate input** before saving it: check the age is a number.
SQL injection /ˌes kjuː ˈel ɪnˈdʒekʃn/	**SQL injection** happens when user input is run as a database command.

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relational database /rɪˈleɪʃənl ˈdeɪtəbeɪs/	A **relational database** has linked tables.
tables /ˈteɪblz/	The database has two **tables**: Students and Clubs. Students Clubs
primary key /ˈpraɪməri kiː/	StudentID is the **primary key**: no two students share it. StudentID StudentID。
foreign key /ˈfɒrən kiː/	ClassID in the STUDENT table is a **foreign key**. STUDENT ClassID
Normalisation /ˌnɔːməlaɪˈzeɪʃn/	**Normalisation** splits tables so the same data is not stored twice.
entities /ˈentɪtiz/	Students and courses are **entities** in the database.
SQL /ˌes kjuː ˈel/	**SQL** is a language for asking a database questions.
JOIN /dʒɔɪn/	Use a **JOIN** to combine the Students and Clubs tables. JOIN Students Clubs
GROUP BY /gruːp baɪ/	**GROUP BY** class counts the students in each class. GROUP BY
parameterised query /ˌpærəˈmetəraɪzd ˈkwɪərɪ/	A **parameterised query** keeps the user's data apart from the SQL code. SQL
JSON /ˈdʒeɪsn/	**JSON** stores data as names and values in curly brackets. JSON
Data science /ˈdeɪtə ˈsaɪəns/	**Data science** uses statistics and code to learn from data.

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Word	Example
Descriptive statistics /dɪˈskrɪptɪv stəˈtɪstɪks/	**Descriptive statistics** such as the mean and range summarise the data.
visualisation /ˌvɪʒuːəlaɪˈzeɪʃn/	A good **visualisation** makes patterns easy to see.
Correlation is not causation /ˌkɒrɪˈleɪʃn ɪz nɒt kɔːˈseɪʃn/	Ice-cream sales and sunburn rise together, but **correlation is not causation**.

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