

ICT - Year 9.1 – 08-02-21- Computer Database



Computing

Computer Databases

Flat-file Databases

Andy Bush



RECAP QUIZ

- Follow the link below and complete the Quiz

https://teachers.thenational.academy/lessons/computer-databases-c8uk2d?from_query=database



Learning Objectives

Compare paper and computer-based databases

Navigate a flat-file database to compare different views of information

Explain what a field and a record is in a database

Choose which field to sort data by to answer a given question



Activity

- Follow the link below and watch the video

https://teachers.thenational.academy/lessons/computer-databases-c8uk2d?from_query=database



Task 1 - Sorting to answer questions

1. Open the mini beasts database from: ncce.io/d52-1
2. Click in the table tab
3. Click on the column headings to sort the data from highest to lowest. Click a heading again to sort the data from lowest to highest.
4. Sort the data to help you answer the questions on the next page.

The screenshot shows the J2E database interface. At the top, there are tabs for 'define', 'form', 'table', 'chart', and 'options'. The 'table' tab is selected. Below the tabs, there is a search bar and a 'sort by' dropdown menu set to '[entered]'. The main area displays a 'Mini Beast' form for 'Bumble bee' with a picture of a bumblebee and input fields for 'How many legs' (6), 'Does it have wings' (checked), and 'Does it have a shell' (unchecked). To the right, a table view shows a list of mini beasts with columns for 'Mini Beast', 'Picture', 'How many legs', 'Does it have wings', and 'Does it have a shell'. The table is sorted by 'How many legs' in descending order.

Mini Beast	Picture	How many legs	Does it have wings	Does it have a shell
Bumble bee		6	<input type="checkbox"/>	<input type="checkbox"/>
Ant		6	<input type="checkbox"/>	<input type="checkbox"/>
Butterfly		6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
fly		6	<input type="checkbox"/>	<input type="checkbox"/>
Dragon fly		6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fly		6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Grasshopper		6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ladybird		6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Source: J2E



Task 1 - Sorting to answer questions

- Which mini beast has the most legs?
- Which mini beasts have the fewest legs?
- Which mini beast is at the beginning of the alphabet?
- Which mini beast is at the end of the alphabet?

Mini Beast	Picture	How many legs	Does it have wings	Does it have a shell
Bumble bee		6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ant		6	<input type="checkbox"/>	<input type="checkbox"/>
Butterfly		6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
fly		6	<input type="checkbox"/>	<input type="checkbox"/>
Dragon fly		6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fly		6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Grasshopper		6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ladybird		6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Source: J2E



Task 2 - Sorting in different views

1. Open the countries database:
2. ncce.io/d52-2
3. Choose a view and sort the data to answer the questions on the next page.
4. Think of two more questions you could answer by sorting the data.

The image shows two screenshots of a database application. The top screenshot displays a detailed view for the United Kingdom, with fields for Country Name, Area (242,495 km²), Population (6,410,000), Language (English), Flag (UK flag), and Currency (Great British Pounds). The bottom screenshot shows a table view of countries sorted by Area (km²), with columns for Country Name, Area, Population, Language, Flag, and Currency. The table lists Russia, Canada, United States, China, and Brazil.

Source: J2E

Country Name	Area (km ²)	Population	Language	Flag	Currency
Russia	17,098,242	144192448	Russian		Russian ruble
Canada	9,980,000	35985752	English/French		Canadian Dollar
United States	9,857,306	322369312	English		United States Dollar
China	9,596,961	1376049024	Chinese		Renminbi
Brazil	8,515,767	205338000	Portuguese		Real



Task 2 - Sorting in different views






Write down answers to the questions below. Also note which field you used to answer each question.

1. Which country has the smallest population?
2. Which country covers the largest land area?
3. Which currency is last alphabetically?

Think of two more questions you could answer by sorting the data.

The image shows two screenshots of a data application. The top screenshot displays a detailed view for the United Kingdom, with the 'sort by' dropdown menu set to 'Area'. The bottom screenshot shows a table of countries sorted by area, with the 'Area (km^2)' column header highlighted.

Source: J2E

Country Name	Area (km ²)	Population	Language	Flag	Currency
Russia	17,098,242	144192448	Russian		Russian ruble
Canada	9,980,000	35985752	English/French		Canadian Dollar
United States	9,857,306	322369312	English		United States Dollar
China	9,596,961	1376049024	Chinese		Renminbi
Brazil	8,515,767	205338000	Portuguese		Real



Task 3 - Records and fields

Look at these two database views and identify which parts are records and which parts are fields.

search sort by Area

record 19 of 24

← →

Country Name

Area km²






Population

Language

Flag 

Currency

search record 1 to 20 of 24

Country Name	Area (km ²)	Population	Language	Flag	Currency
Russia	17,098,242	144192448	Russian		Russian ruble
Canada	9,980,000	35985752	English/French		Canadian Dollar
United States	9,857,306	322369312	English		United States Dollar
China	9,596,961	1376049024	Chinese		Renminbi
Brazil	8,515,767	205338000	Portuguese		Real

Source: J2E

Can you think of another field that could be added to this database?



Task 4 - Compare paper vs computer

Think of advantages and limitations.

✓	Can fly	Has six legs	✓
Name: <u>Bee</u>			
✓	Lives in large groups	Is more than one colour	✓

define form table chart options

2 viewers

search [] sort by [entered] []

record 1 of 13

Mini Beast Bumble bee

Picture 

How many legs

Does it have wings

Does it have a shell

Source: J2E



Plenary

Compare paper and computer-based databases

Navigate a flat-file database to compare different views of information

Explain what a field and a record is in a database

Choose which field to sort data by to answer a given question

Looking at the learning objective above , do you think you have achieved any ?

If you have, please explain what you did to gain it.

