Data Types and Structures

A-Level Computer Science · Vocabulary in context

Word	Example
data type /ˈdeɪtə taɪp/	INTEGER is a **data type**. INTEGER
index /ˈɪndeks/	Use **index** 3 to read the third item in the array. 3
array /əˈreɪ/	An **array** stores many values under one name.
record /ˈrekɔːd/	Each **record** in the school database holds one student's details.
record structure /ˈrekɔːd ˈstrʌktʃə/	A **record structure** groups a name, an age and a class. `
field /fiːld/	The **field** "Name" stores each student's name. "Name"
element /ˈelɪmənt/	Each **element** of the array holds one value.
bounds /baʊndz/	The array's **bounds** are 1 and 10. 1 10
stack /stæk/	The last item put on the **stack** is the first one taken off.
dimension /daɪˈmenʃn/	A 2D array has rows and columns: each is one **dimension**. 2D
lower bound /ˈləʊə baʊnd/	The **lower bound** of the array is 1. 1
upper bound /ˈʌpə baʊnd/	The **upper bound** of the array is 10. 10
linear search /ˈlɪnɪə sɜːtʃ/	A **linear search** checks each item one by one.

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Word	Example
bubble sort /ˈbʌbl sɔːt/	**Bubble sort** swaps two items next to each other if they are in the wrong order.
file /faɪl/	Save the scores in a **file**.
secondary storage /ˈsekəndəri ˈstɔːrɪdʒ/	A hard disk is **secondary storage**.
text file /tekst faɪl/	A **text file** stores lines of text.
end of file /end ɒv faɪl/	Stop reading at the **end of file**.
push /pʊʃ/	**Push** the item onto the stack.
separator /ˈsepəreɪtə/	A comma is the **separator** between the values.
Abstract Data Type /ˈæbstrækt ˈdeɪtə taɪp/	A stack is an **Abstract Data Type**.
linked list /lɪŋkt lɪst/	In a **linked list**, each item points to the next one.
pointer /ˈpɔɪntə/	The **pointer** shows where the next item is.
queue /kjuː/	A **queue** is first in, first out.
LIFO /ˈlaɪfəʊ/	A stack is **LIFO**: last in, first out.
FIFO /ˈfaɪfəʊ/	A queue is **FIFO**: first in, first out.
pop /pɒp/	**Pop** the top item off the stack.
enqueue /enˈkjuː/	**Enqueue** adds an item to the back of the queue.

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Word	Example
dequeue /diːˈkjuː/	**Dequeue** takes the item from the front of the queue.
node /nəʊd/	Each **node** holds a value and a pointer.
traverse /trəˈvɜːs/	**Traverse** the list to print every item.
free list /friː lɪst/	The **free list** keeps track of empty nodes.
overflow /ˌəʊvəˈfləʊ/	Adding 200 and 100 in one byte causes **overflow**. 200 100
underflow /ˌʌndəˈfləʊ/	Popping from an empty stack causes **underflow**.
circular array /ˈsɜːkjʊlə əˈreɪ/	A **circular array** goes back to the start when it reaches the end.

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