Abstract data types (HL only)

International Baccalaureate · IB Diploma · Computer Science · HL · Vocabulary in context

Word	Example
abstract data type /ˈæbstrækt ˈdeɪtə taɪp/	A stack is an **abstract data type**: we know what it does, not how it is built.
implemented	The method is **implemented** in the subclass.
linked list /lɪŋkt lɪst/	In a **linked list**, each item points to the next one.
• **node** /nəʊd/	Each **node** holds a value and a pointer.
pointer /ˈpɔɪntə/	The **pointer** shows where the next item is.
head	The **head** points to the first node of a linked list.
traverse /trəˈvɜːs/	**Traverse** the list to print every item.
singly linked	In a **singly linked** list, each node points only to the next one.
doubly linked	In a **doubly linked** list, each node points to the next and the previous one.
circular	In a **circular** list, the last node points back to the first.
binary tree /ˈbaɪnəri triː/	Each node in a **binary tree** has at most two children.
children	A node in a binary tree can have two **children**.
root /ruːt/	The **root** is the top node of a tree.

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Word	Example
leaf	A **leaf** is a node with no children.
binary search tree /ˈbaɪnəri sɜːtʃ triː/	In a **binary search tree**, smaller values go left and bigger values go right.
balanced /ˈbælənst/	A **balanced** tree has branches of about the same height.
pre-order	**Pre-order** traversal visits the root first.
in-order	**In-order** traversal visits left, root, then right.
post-order	**Post-order** traversal visits the root last.
set /set/	A **set** holds values with no repeats.
union /ˈjuːnɪən/	The **union** of two sets contains every item in either set.
intersection /ˌɪntəˈsekʃn/	The **intersection** of two sets contains items in both.
difference	The **difference** A − B contains items in A but not in B. A − B A B
hash table /hæʃ ˈteɪbl/	A Python dictionary is a **hash table**. Python
hash function /hæʃ ˈfʌŋkʃn/	A **hash function** turns a key into a position in the table.
collision /kəˈlɪʒn/	A **collision** happens when two computers send at the same time.

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Word	Example
chaining /ˈtʃeɪnɪŋ/	With **chaining**, each slot in the hash table holds a list of keys.
→ **linear probing** /ˈlɪnɪə ˈprəʊbɪŋ/	**Linear probing** tries the next space when one is full.
load factor /ləʊd ˈfæktə/	The **load factor** is the number of keys divided by the number of slots.

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