

Topic 10: Data Types and Structures

EAL keyword sheet - Cambridge International AS & A Level Computer Science 9618. Write the word in your own language in the last column.

Keyword	Meaning	Example sentence	In my language
data type	The kind of data a variable holds.	<i>INTEGER is a data type.</i>	
INTEGER	A whole number.	<i>7 is an integer.</i>	
REAL	A number with a decimal part.	<i>3.5 is a real.</i>	
CHAR	A single character.	<i>'A' is a CHAR.</i>	
STRING	A sequence of characters.	<i>'Hello world' is a string.</i>	
BOOLEAN	A value that is TRUE or FALSE.	<i>A BOOLEAN needs only one bit.</i>	
DATE	A data type that stores a date.	<i>The DATE data type stores 01/01/2026.</i>	
array	A fixed-size set of items of one type, found by an index.	<i>An array stores 30 marks.</i>	
index	The position of an item in an array.	<i>Marks[3] is the third item.</i>	
1D array	An array that is a single list.	<i>A 1D array holds names.</i>	
2D array	An array with rows and columns.	<i>Grid[2, 3] refers to row 2, column 3.</i>	
record	A data structure that groups fields of different types.	<i>A record holds name, age and email.</i>	
text file	A file that stores data as readable text.	<i>A text file can store high scores.</i>	
file operations	Opening, reading, writing and closing files.	<i>Always close a file after using it.</i>	
abstract data type (ADT)	A data structure defined by what it does, not how it is stored.	<i>A stack is an ADT.</i>	
stack	A last-in, first-out (LIFO) structure.	<i>PUSH adds and POP removes the top item.</i>	
queue	A first-in, first-out (FIFO) structure.	<i>ENQUEUE adds to the back; DEQUEUE removes from the front.</i>	
linked list	A list of nodes where each node points to the next.	<i>A linked list can grow easily.</i>	

Keyword	Meaning	Example sentence	In my language
pointer	A value that stores the address of another item.	<i>A pointer links the nodes.</i>	
node	One element of a linked list or tree.	<i>Each node has data and a pointer.</i>	
push / pop	Add to / remove from a stack.	<i>POP gives the last item added.</i>	
enqueue / dequeue	Add to / remove from a queue.	<i>DEQUEUE returns the first item.</i>	
LIFO / FIFO	Last in, first out / first in, first out.	<i>A stack is LIFO.</i>	
binary tree	A structure where each node has up to two children.	<i>The root is the top node of a binary tree.</i>	
user-defined data type	A data type created by the programmer.	<i>An enumerated type is user-defined.</i>	
constant	A named value that cannot change while the program runs.	<i>Use a constant for VAT rate.</i>	
variable	A named memory location whose value can change.	<i>The variable Score increases.</i>	