Algorithms and Programming

AP Computer Science Principles · Vocabulary in context

Word	Example
variable /'veərɪəbl/	A **variable** stores a value that can change.
assignment /ə'saɪnmənt/	Total ← 0 is an **assignment**. Total ← 0
Data abstraction /'deɪtə əb'strækʃn/	**Data abstraction** stores all the scores in one list.
remainder /rɪ'meɪndə/	14 divided by 5 leaves a **remainder** of 4. 14 5 4
string /strɪŋ/	"Hello" is a **string**. "Hello"
concatenation /kən,kætə'neɪʃn/	**Concatenation** joins "Hello" and "World". "Hello" "World"
Boolean expression /'bu:lɪən ek'spreʃn/	x > 5 is a **Boolean expression**: it is true or false. x > 5
conditional (selection) /kən'dɪʃənl/	A **conditional (selection)** runs code only if a condition is true.
nested conditional /'nestɪd kən'dɪʃənl/	A **nested conditional** is an IF inside another IF. IF IF
Iteration (a loop) /ˌɪtə'reɪʃn/	**Iteration (a loop)** repeats some code.
infinite loop /'ɪnfɪnət lu:p/	while True: with no break makes an **infinite loop**. while True: break
algorithm /'ælgərɪθəm/	An **algorithm** is a list of steps to solve a problem.
list /lɪst/	[3, 5, 7] is a **list** of three numbers. [3, 5, 7]

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Binary search /ˈbaɪnəri sɜːtʃ/	**Binary search** halves a sorted list each step.
procedure (function) /prəˈsiːdʒə/	Call a **procedure (function)** instead of repeating the same code.
procedural abstraction /prəˈsiːdʒərəl əbˈstrækʃn/	**Procedural abstraction** lets you use a function without knowing how it works inside.
abstraction /əbˈstrækʃn/	A map uses **abstraction**: it leaves out small details.
library /ˈlaɪbrəri/	A **library** gives you ready-made functions.
simulation /ˌsɪmjʊˈleɪʃn/	A **simulation** can model how traffic moves through a town.
Efficiency /ɪˈfɪʃənsi/	**Efficiency** means using less time and memory.
heuristic /hjuːˈrɪstɪk/	A **heuristic** is a good guess that saves time.
undecidable /ˌʌndɪˈsaɪdəbl/	The halting problem is **undecidable**: no program can solve it every time.
Interface /ˈɪntəfeɪs/	The library's **interface** lists the procedures you can call.
halting problem	The **halting problem** cannot be solved by any program.

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