GAC024 Discrete Mathematics

GAC Mathematics · Vocabulary in context

Word	Example
set /set/	A **set** holds values with no repeats.
union /'juːnɪən/	The **union** of two sets contains every item in either set.
intersection /ˌɪntə'sekʃn/	The **intersection** of two sets contains items in both.
set complement /set 'kɒmplɪmənt/	The **set complement** contains everything not in the set.
subset /'sʌbset/	{1, 2} is a **subset** of {1, 2, 3}. {1, 2} {1, 2, 3}
relation /rɪ'leɪʃn/	“Is the parent of” is a **relation**. “Is the parent of”
function /'fʌŋkʃn/	A **function** returns a value.
Venn diagram /ven 'daɪəgræm/	A **Venn diagram** shows which students cycle, swim or do both. `
inclusion-exclusion principle /ɪn'kluːʒn eks'kluːʒn 'prɪnsɪpl/	The **inclusion-exclusion principle** stops you counting the overlap twice.
number base /'nʌmbə beɪs/	Binary uses **number base** 2. 2
• **decimal** /'desɪml/	The binary number 101 is 5 in **decimal**. 101 5
binary /'baɪnəri/	In **binary**, the number 5 is written 101. 5 101
hexadecimal /ˌheksə'desɪml/	In **hexadecimal**, the number 255 is written FF. 255 FF
place value /pleɪs 'vælјuː/	In 352, the **place value** of the 5 is ten. 352 5

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binary arithmetic /ˈbaɪnəri əˈrɪθmətɪk/	In **binary arithmetic**, $1 + 1 = 10$. $1 + 1 = 10$
bit /bɪt/	A **bit** is a single 0 or 1. 0 1
byte /baɪt/	One **byte** can store one letter, such as A. A
Boolean algebra /ˈbuːlɪən ˈældʒɪbrə/	**Boolean algebra** simplifies logic expressions.
truth table /truːθ ˈteɪbl/	A **truth table** shows the output for every input.
logic gates /ˈlɒdʒɪk geɪts/	AND, OR and NOT are **logic gates**. AND、OR NOT
logic circuit /ˈlɒdʒɪk ˈsɜːkɪt/	A **logic circuit** is made of logic gates.
algorithm /ˈælgərɪθəm/	An **algorithm** is a list of steps to solve a problem.
flowchart /ˈfləʊtʃɑːt/	A **flowchart** shows the steps as boxes and arrows.
pseudocode /ˈsuːdəʊkəʊd/	Write the algorithm in **pseudocode** first.
tracing /ˈtreɪsɪŋ/	**Tracing** a program means following it line by line and writing down each value.
efficiency /ɪˈfɪʃənsi/	A lamp with 20% **efficiency** turns only a fifth of its energy into light. 20%
graph /græf/	A **graph** has nodes joined by edges.
vertices /ˈvɜːtɪsiːz/	A triangle has three **vertices**.
edges /ˈedʒɪz/	The roads are the **edges** of the graph.

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degree /dɪ'gri:/	The **degree** of a vertex is the number of edges that meet there.
tree /tri:/	An undirected **tree** is connected and has no cycles.
shortest path /'ʃɔ:tɪst pæθ/	Find the **shortest path** from A to F. A F

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