Computer Science Foundations & Algorithms		
Key Term	**Definition**	**Synonyms**
Algorithm	A clear set of step-by-step instructions or rules followed to solve a problem or complete a task.	Step-by-step plan, process rule, logic sequence
Decomposition	Breaking down a complex problem into smaller, more manageable parts to make it easier to solve.	Problem breakdown, sectioning, segmenting
Abstraction	Removing unnecessary details from a problem so you can focus only on the essential features.	Simplifying, selective focus, high-level view
Flowchart	A visual diagram using standardized geometric symbols connected by directional arrows to map out an algorithm's steps and logic.	Process map, visual algorithm, logic diagram
Terminator Symbol	An oval shape used at the very start and end of a flowchart (e.g., Start and Stop).	Start/Stop symbol, endpoint marker
Process Symbol	A rectangle shape in a flowchart representing an action, calculation, or data manipulation step.	Action block, step box
Input/Output Symbol	A parallelogram shape in a flowchart used whenever data is entered into a system or output to a user.	Data symbol, I/O box
Decision Symbol	A diamond shape in a flowchart representing a conditional check (Selection) with branches (e.g., Yes/No).	Branching symbol, condition diamond, IF test
Sequence	Running algorithmic instructions in a precise, step-by-step order from top to bottom.	Order of execution, line-by-line order
Selection	A decision point where different pathways in an algorithm are taken based on whether a condition is true or false.	Decision point, conditional branch, IF statement

Iteration	Repeating a set of instructions multiple times using loops until a specific condition is met.	Looping, repetition, cycling
Spreadsheets & Data Handling		
Key Term	**Definition**	**Synonyms**
Cell	An individual box on a spreadsheet grid formed by the intersection of a column (letter) and a row (number).	Grid box, data cell
Cell Reference	The unique set of coordinates that identifies a specific cell on a spreadsheet (e.g., B4).	Cell address, grid coordinate
Value	Raw data entered into a cell, such as numbers, text, or dates.	Data input, cell entry
Formula	A mathematical equation written into a cell that calculates values (must start with an equals sign =).	Calculation expression, math rule
Function	A built-in, named formula used to perform specific calculations easily (e.g., =SUM(), =AVERAGE()).	Preset formula, calculation command
Cell Range	A selected group of adjacent cells defined by the top-left and bottom-right cells separated by a colon (e.g., A1:A10).	Data block, cell group
Conditional Formatting	A feature that changes a cell's appearance (e.g., color or font style) automatically depending on the cell's value or condition.	Value-based styling, rule-based formatting
Binary & Data Representation		
Key Term	**Definition**	**Synonyms**

Binary	A base-2 number system used by computers consisting of only two digits: 0 and 1.	Base-2 system, digital code, machine code
Bit (Binary Digit)	The smallest unit of data in computing, represented by a single 0 or 1.	Single binary digit, basic unit
Byte	A group of 8 bits processed as a single unit of data storage (e.g., 10110010).	8-bit group, standard storage unit
Denary (Decimal)	The base-10 number system used in everyday human counting, consisting of digits 0 through 9.	Base-10 system, human counting system
Transistor	A tiny microscopic electrical switch inside a CPU that turns electric current on (1) or off (0).	Silicon switch, micro-switch
ASCII	A standardized character encoding scheme that assigns a unique binary number to every letter, number, and symbol on a keyboard.	Character set, text encoding standard

General Programming Concepts

Key Term	Definition	Synonyms
Variable	A named storage location in memory that holds a data value that can change while the program runs.	Value container, dynamic holder
Data Type	The classification of a value that determines what operations can be performed on it (e.g., Integer, String, Boolean).	Value classification, variable type
Integer	A data type representing a whole number (positive, negative, or zero) without decimals.	Whole number, non-fractional number

String	A data type representing a sequence of characters enclosed in quotation marks (text, numbers, or symbols).	Text value, alphanumeric string
Boolean	A data type that can hold only one of two values: True or False.	Binary flag, true/false state
Syntax Error	An error in code where the rules or grammar of the programming language have been broken.	Language error, grammatical bug
Logic Error	A mistake in code that causes a program to run without crashing, but produces an unexpected or incorrect result.	Algorithmic flaw, functional bug
Micro:bit & Hardware Computing		
Key Term	**Definition**	**Synonyms**
Microcontroller	A small computer on a single integrated circuit designed to control specific physical tasks (e.g., the BBC Micro:bit board).	Embedded processor, control unit
Input Device	Hardware components on the Micro:bit that detect changes or user actions (e.g., Buttons A/B, accelerometer, light sensor).	Sensor input, trigger mechanism
Output Device	Hardware components that display or present information to the user (e.g., 5×5 LED grid, speaker, pin pads).	Physical display, notification output
Accelerometer	An onboard sensor that measures movement and tilt forces across three axes (x, y, z) to detect gestures like shaking or tilting.	Motion sensor, tilt detector

Pin Edge Connector	The metal contacts along the bottom edge of the Micro:bit used to connect external components like LEDs, buzzers, and motors.	GPIO connector, expansion pin
Radio Communication	Wireless signaling that allows Micro:bits to send and receive data packets directly to and from each other.	Wireless packet exchange, device mesh

Python Text-Based Programming

Key Term	Definition	Synonyms
Syntax	The strict set of rules governing how code must be written so the Python interpreter can execute it.	Code rules, structural grammar
Indentation	Blank space at the start of a code line in Python used to group statements into blocks (e.g., inside loops or if statements).	Tab spacing, block indent
Print Function (print())	A built-in Python command that outputs text or values directly to the user screen or console.	Console output, screen write
Input Function (input())	A built-in Python command that pauses execution and prompts the user to type in data.	User prompt, keyboard fetch
Comment (#)	Non-executable lines starting with # used to document and explain code to human programmers.	Code annotation, developer note
Conditionals (if, elif, else)	Keywords used in Python to run specific code blocks based on whether conditions evaluate to True or False.	Branching logic, selection statement
while Loop	An indefinite loop in Python that continuously executes a code block as long as a specified condition remains True.	Condition loop, indefinite iteration

for Loop	A definite loop in Python that executes a block of code a set number of times or through a sequence.	Counted loop, definite iteration
Networks & The Internet		
Key Term	**Definition**	**Synonyms**
Computer Network	Two or more computing devices connected together to share data, files, devices, and internet access.	Interconnected system, network grid
LAN (Local Area Network)	A network covering a small geographical area, such as a single room, school, or home building.	Local network, home/school network
WAN (Wide Area Network)	A network covering a large geographical area, often connecting multiple LANs across cities or countries (e.g., the Internet).	Global network, long-distance network
The Internet	The global physical infrastructure of interconnected computer networks worldwide.	World network, physical web infrastructure
World Wide Web (WWW)	An information service of web pages, media, and documents accessed over the internet using web browsers.	The Web, web services
IP Address	A unique numerical identifier assigned to every device connected to a network to direct data traffic to it correctly.	Network address, digital location code
Packet	A small unit of data into which larger files (like web pages or images) are broken down for transmission across a network.	Data packet, transmission segment

Router	A network hardware device that forwards data packets between different computer networks to their correct destination.	Network director, traffic router
Bandwidth	The maximum amount of data that can be transferred over a network connection in a given time (e.g., Mbps).	Network speed, transfer capacity, data rate
Protocol	A standardized set of rules that governs how devices communicate and transmit data across a network (e.g., HTTP, HTTPS).	Communication rule, transmission standard