



Cambridge International AS & A Level

COMPUTER SCIENCE

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Paper 2 Fundamental Problem-solving and Programming Skills

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INSERT

2 hours

INFORMATION

- This insert contains all the resources referred to in the questions.
- You may annotate this insert and use the blank spaces for planning. **Do not write your answers** on the insert.



This document has **4** pages.

Note: An error occurs if a function call is not properly formed, or if the parameters are incorrect.

STRING Functions

`LEFT(ThisString : STRING, x : INTEGER)` RETURNS STRING
returns leftmost x characters from ThisString

Example: `LEFT("ABCDEFGH", 3)` returns "ABC"

`RIGHT(ThisString: STRING, x : INTEGER)` RETURNS STRING
returns rightmost x characters from ThisString

Example: `RIGHT("ABCDEFGH", 3)` returns "FGH"

`MID(ThisString : STRING, x : INTEGER, y : INTEGER)` RETURNS STRING
returns a string of length y starting at position x from ThisString

Example: `MID("ABCDEFGH", 2, 3)` returns "BCD"

`LENGTH(ThisString : STRING)` RETURNS INTEGER
returns the integer value representing the length of ThisString

Example: `LENGTH("Happy Days")` returns 10

`LCASE(ThisChar : CHAR)` RETURNS CHAR
returns the character value representing the lower case equivalent of ThisChar
Alphabetic characters that are not upper case are unchanged.

Example: `LCASE('W')` returns 'w'

`UCASE(ThisChar : CHAR)` RETURNS CHAR
returns the character value representing the upper case equivalent of ThisChar
Alphabetic characters that are not lower case are unchanged.

Example: `UCASE('a')` returns 'A'

`TO_UPPER(ThisString : STRING)` RETURNS STRING
returns a string formed by converting all characters of ThisString to upper case.

Example: `TO_UPPER("Error 803")` returns "ERROR 803"

`TO_LOWER(ThisString : STRING)` RETURNS STRING
returns a string formed by converting all characters of ThisString to lower case.

Example: `TO_LOWER("JIM 803")` returns "jim 803"

NUM_TO_STR(x : <data type1>) RETURNS <data type2>
returns a string representation of a numeric value.

Note: <data type1> may be REAL or INTEGER
<data type2> may be CHAR or STRING

Example: NUM_TO_STR(87.5) returns "87.5"

STR_TO_NUM(x : <data type1>) RETURNS <data type2>
returns a numeric representation of a string.

Note: <data type1> may be CHAR or STRING
<data type2> may be REAL or INTEGER

Example: STR_TO_NUM("23.45") returns 23.45

IS_NUM(ThisString : STRING) RETURNS BOOLEAN
returns the value TRUE if ThisString represents a valid numeric value.

Example 1: IS_NUM("12.36") returns TRUE
Example 2: IS_NUM("-12.36") returns TRUE
Example 3: IS_NUM("12.3a") returns FALSE

ASC(ThisChar : CHAR) RETURNS INTEGER
returns an integer value (the ASCII value) of ThisChar

Example: ASC('A') returns 65

CHR(x : INTEGER) RETURNS CHAR
returns the character whose integer value (the ASCII value) is x

Example: CHR(87) returns 'W'

NUMERIC Functions

INT(x : REAL) RETURNS INTEGER
returns the integer part of x

Example: INT(27.5415) returns 27

RAND(x : INTEGER) RETURNS REAL
returns a real number in the range 0 to x (**not** inclusive of x).

Example: RAND(87) could return 35.43

OTHER Functions

EOF(FileName : STRING) RETURNS BOOLEAN
returns TRUE if there are no more lines to be read from file FileName

Note: The function will generate an error if the file is not already open in READ mode.

Note: An error occurs if an operator with a value of an incorrect type is used.

OPERATORS

&	Concatenates (joins) two strings Example: "Summer" & " " & "Pudding" evaluates to "Summer Pudding"
AND	Performs a logical AND on two Boolean values Example: TRUE AND FALSE evaluates to FALSE
OR	Performs a logical OR on two Boolean values Example: TRUE OR FALSE evaluates to TRUE
NOT	Performs a logical NOT on a Boolean value Example: NOT TRUE evaluates to FALSE
MOD	Finds the remainder when one number is divided by another Example: 10 MOD 3 evaluates to 1
DIV	Finds the quotient when one number is divided by another Example: 10 DIV 3 evaluates to 3

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