



Cambridge International AS & A Level

COMPUTER SCIENCE

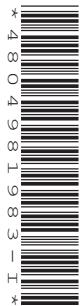
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Paper 2 Fundamental Problem-solving and Programming Skills

May/June 2025

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.

An error will be generated if a function call is not properly formed or if the parameters are of an incorrect type or an incorrect value.

String and character functions

- A string of length 1 may be considered to be either of type CHAR or STRING
- A CHAR may be assigned to, or concatenated with, a STRING
- A STRING of length greater than 1 cannot be assigned to a CHAR

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 string "BCD"

LENGTH(*ThisString* : STRING) RETURNS INTEGER

returns the integer value representing the length of *ThisString*

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

TO_UPPER(*x* : <datatype>) RETURNS <datatype>

<datatype> may be CHAR or STRING

returns an object of type <datatype> formed by converting all characters of *x* to upper case.

Examples:

- **TO_UPPER** ("Error 803") returns "ERROR 803"
- **TO_UPPER** ('a') returns 'A'

TO_LOWER(*x* : <datatype>) RETURNS <datatype>

<datatype> may be CHAR or STRING

returns an object of type <datatype> formed by converting all characters of *x* to lower case.

Examples:

- **TO_LOWER** ("JIM 803") returns "jim 803"
- **TO_LOWER** ('W') returns 'w'

NUM_TO_STR(*x* : <datatype1>) RETURNS <datatype2>

returns a string representation of a numeric value.

<datatype1> may be REAL or INTEGER, <datatype2> may be CHAR or STRING

Example: **NUM_TO_STR** (87.5) returns "87.5"

If *x* is a negative value, the returned value will be a string beginning with the '-' character.

STR_TO_NUM(*x* : <datatype1>) RETURNS <datatype2>

returns a numeric representation of a string.

<datatype1> may be CHAR or STRING, <datatype2> may be REAL or INTEGER

Example: **STR_TO_NUM** ("23.45") returns 23.45

If the string begins with the '-' character, the returned value will be negative.

IS_NUM(ThisString : <datatype>) RETURNS BOOLEAN
 returns TRUE if ThisString represents a valid numeric value.
 <datatype> may be CHAR or STRING
 Example: IS_NUM("-12.36") returns TRUE

ASC(ThisChar : CHAR) RETURNS INTEGER
 returns an integer value (the ASCII value) of character ThisChar
 Example: ASC('A') returns 65, ASC('B') returns 66

CHR(x : INTEGER) RETURNS CHAR
 returns the character whose integer value (the ASCII value) is x
 Example: CHR(65) returns 'A', CHR(66) returns 'B'

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 35.430729

Date functions

Date format is assumed to be DD/MM/YYYY unless otherwise stated.

DAY(ThisDate : DATE) RETURNS INTEGER
 returns the day number from ThisDate
 Example: DAY(04/10/2003) returns 4

MONTH(ThisDate : DATE) RETURNS INTEGER
 returns the month number from ThisDate
 Example: MONTH(04/10/2003) returns 10

YEAR(ThisDate : DATE) RETURNS INTEGER
 returns the year number from ThisDate
 Example: YEAR(04/10/2003) returns 2003

DAYINDEX(ThisDate : DATE) RETURNS INTEGER
 returns the day index number from ThisDate where Sunday = 1, Monday = 2 etc.
 Example: DAYINDEX(09/05/2023) returns 3

SETDATE(Day, Month, Year : INTEGER) RETURNS DATE
 returns a value of type DATE with the value of <Day>/<Month>/<Year>
 Example: SETDATE(26, 10, 2003) returns a date corresponding to 26/10/2003

TODAY() RETURNS DATE
 returns a value of type DATE corresponding to the current date.

Text file functions

`EOF(FileName : STRING) RETURNS BOOLEAN`
 returns TRUE if there are no more lines to be read from file `FileName`
 will generate an error if the file is not already open in READ mode.

Operators

An error will be generated if an operator is used with a value or values of an incorrect type.

&	concatenates (joins) two strings. Example: "Summer" & " " & "Pudding" evaluates to "Summer Pudding" may also be used to concatenate a CHAR with a STRING
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

Comparison operators

=	used to compare two items of the same type. evaluates to TRUE if the condition is true, otherwise evaluates to FALSE
>	Notes: <ul style="list-style-type: none">may be used to compare types REAL and INTEGERmay be used to compare types CHAR and STRINGcase sensitive when used to compare types CHAR and/or STRINGcannot be used to compare two records
<	
>=	
<=	Examples: <ul style="list-style-type: none">"Program" = "program" evaluates to FALSECount = 4 evaluates to TRUE when Count contains the value 4
<>	

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