



Cambridge International AS & A Level

COMPUTER SCIENCE

9618/22

Paper 2 Fundamental Problem-solving and Programming Skills

October/November 2021

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

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge Assessment International Education is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which itself is a department of the University of Cambridge.