



# Cambridge International AS & A Level

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**COMPUTER SCIENCE**

**9618/23**

Paper 2 Fundamental Problem-solving and Programming Skills

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INSERT

**2 hours**

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## 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.



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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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