

The LEFT of a string

To find the left most 3 characters from a string we can make use of the subString method. We have the start position at 0 as the first element in an array or string is 0. We then simply put how many characters we need from the left of the string (minus 1) into the second argument. We must subtract 1 as string indexes start at 0.

```
SUBSTRING(0,2, 'Hello')
```

```
'Hel'
```

The RIGHT of a string

To find the right most 3 characters from a string we can again make use of the subString method. The hard part is to find the starting character. This will be the length of the string (5 in the following example) minus the number of characters we need to find. The second argument will again be the number of characters we need from the right.

```
myString ← 'Hello'
SUBSTRING(LEN(myString)-3,LEN(myString)-1, myString)
```

```
'llo'
```

ASCII character codes

Characters are the data type which store letters and other symbols from a character set. Each character has a specific character code in either ASCII or Unicode. Sometimes it is useful to know what these codes are. For instance, if we wanted to write a simple encryption program which would replace each letter by the next letter in the alphabet we would need to know the character number.

CHAR TO CODE(Character)

ASC will return the ASCII number of the character that is input. The way you find a character's number may change with different programming languages.

```
OUTPUT CHAR_TO_CODE('a')
```

```
97
```

CODE TO CHAR(Integer)

CHR will return the ASCII character represented by the integer that is input.

```
OUTPUT CODE_TO_CHAR(97)
```

```
a
```

The following program will take in a string from the user and output the next letter in the alphabet for each of the letters in the uppercase string. The letter Z will cause A to be printed.

```
userWord ← USERINPUT
outputWord ← ''
FOR i ← 0 TO LEN(userWord) - 1
  IF userWord[i] = 'Z' THEN
    outputWord ← outputWord + 'A'
  ELSE
    newCharacter ← CODE_TO_CHAR(CHAR_TO_CODE(outputWord[i]) + 1)
    outputWord ← outputWord + newCharacter
  ENDIF
ENDFOR
OUTPUT outputWord
```