Description of routines available in pattern_matching.trc

General use:

Put somewhere near the beginning of the program the following statement:

> LIBRARY "pattern_matching.trc"
> ! Presumes that program is in the same directory as TrueBasic
> ! If not, put entire path between quotation marks

CALL Find(target\$, pattern\$, i, start, end)

Finds a pattern defined by the special syntax described below within a target string. The search is begun at a specified position.

Arguments:

target\$	string to be searched
pattern\$	pattern to be searched for
i	position within target\$ at which to begin search
start	position within target\$ returned by routine specifying the start of the discovered pattern. Any value of **start** given to **Find** is ignored.
end	position within target\$ returned by routine specifying the end of the discovered pattern. Any value of **end** given to **Find** is ignored.

Special characters:

<   Beginning of string. Example:

> CALL **Find**("An Albanian", "<A?", 1, start, end)
> (start and end are set to 1 and 2)

> CALL **Find**("He is an Albanian", "<A?", 1, start, end)
> (start and end are set to 0 and 0)

>   End of string. Example:

> CALL **Find**("credited", "?ed>", 1, start, end)
> (start and end are set to 6 and 8)

{ }   Defines a set of characters. May consist of:

- A list of characters in any order or a range (e.g. {aeiou}). Only those characters are in the set.
- A list of characters defined by a beginning and end character separated by a hyphen (e.g. {0-9}). The first character must precede the second in ASCII order. All characters, inclusive, are in the set.
- A set preceded by a tilde (e.g. {~aeiou}). All characters *except* those indicates are in the set.

Examples:

> CALL **Find**("Every unique experience", "e{,. ", 1, start, end)
> (start and end are set to 12 and 13)

CALL **Find**("The B1 bomber", "?{0-9}", 1, start, end)
(start and end are set to 5 and 6)

CALL **Find**("This night", "h{~aeiou}", 1, start, end)
(start and end are set to 9 and 10)

$	Predefined set. Matches {a-zA-z}. Example:

CALL **Find**("11Jan2003", "$$$", 1, start, end)
(start and end are set to 3 and 5)

#	Predefined set. Matches {0-9}. Example:

CALL **Find**("SSN 123-45-6789", "###-##-####", 1, start, end)
(start and end are set to 5 and 15)

?	Matches any one character. Example:

CALL **Find**("SSN 123-45-6789", "-??-", 1, start, end)
(start and end are set to 8 and 11)

+	1 or more repetitions of previous character or set. It finds the first match, taken to its maximal extent. Example:

CALL **Find**("SSN 123-45-6789", "-#+", 1, start, end)
(start and end are set to 8 and 10)

*	1 or more repetitions of previous character or set. It finds the first match, taken to its maximal extent. Examples:

CALL **Find**("SSN 123-45-6789", "#*", 1, start, end)
(start and end are set to 1 and 0, since a zero-length match begins the target)

[ ]	Defines a number of repetitions for the preceding character or set. Example:

CALL **Find**("SSN 123-45-6789", "-#[4]", 1, start, end)
(start and end are set to 11 and 15)

Not yet implemented:

'	Next character interpretted literally
[m-n]	Permits repetitions ranging from m to n
( )	Defines a string to be repeated

Known bug:
   Nested {} doesn't work