2. SIMPLE MATCHING

Strings and Things

Introduction

In computers we often use special terminology to represent fairly common things, the goal of this isn't to make things more complicated at all, but instead it is to be very precise about what we are talking about (because when dealing with computers we know that they want us to be very precise about what we say).

Character

A *character* is any single letter, number, or symbol. They are often enclosed in single quotation marks ('). Examples of characters include any of the following:

```
Test_Message   = 'H'
Test_Message   = 'X'
Test_Message   = 'd'
Test_Message   = 'j'
Test_Message   = '4'
Test_Message   = '8'
Test_Message   = '@'
Test_Message   = '%'
```

Further Examples of Characters:

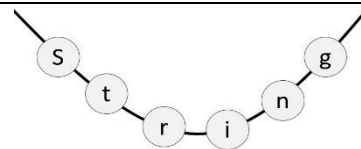|	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
p	q	r	s	t	u	v	w	x	y	z	{			}	~	¬

String

The term *string* is used to describe text, because text is made up of a chain of characters (like a string of pearls, where each pearl is a character). They are often enclosed in double quotes ("). Examples of Strings include any of the following:

```
Test_Message   = "Hello, World!"
Test_Message   = "The rain in Spain"
Test_Message   = "This answer is 42"
Test_Message   = "3.14159265359"
Test_Message   = "@£$%%^$^£$%$"
```

Substring

If we are referring to part of a specific string, we call it a *substring*. They are often enclosed in double quotes ("). If the String is "*Hello, World!*", then the following are examples of Substrings of that string:

```
Test_Message   = "Hello"
Test_Message   = "World!"
Test_Message   = "llo"
Test_Message   = "Wor"
Test_Message   = "llo, Wor"
```

Substrings of:
"Hello, World!"

Reminder

We will remember that the key purpose of regular expressions is to create a pattern to locate a specific string, or to locate a collection of strings with a specific format (as we saw with the email example on Page 1). And we can use them for things like searching and replacing text in a Word Processing editor, and validating fields in an online form. We will also learn about other uses for regular expressions, including things such as Web Scraping and Data Mining, that we will discuss in the future.

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