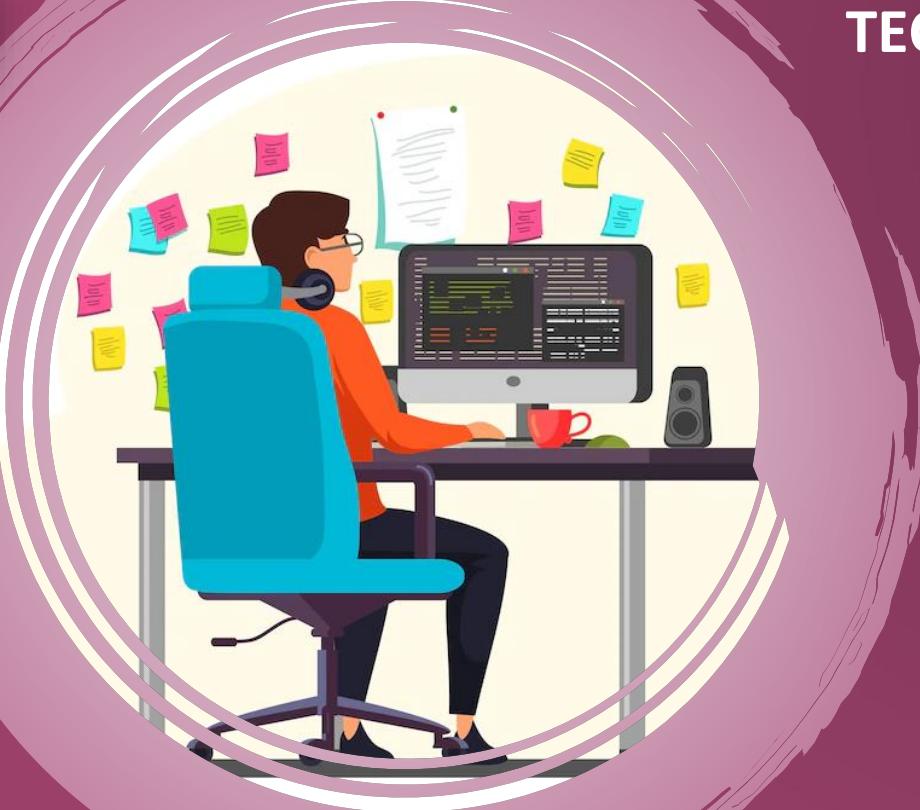




TAMILNADU ADVANCED  
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PYTHON

# Regular Expressions

- A RegEx, or Regular Expression, is a sequence of characters that forms a search pattern.
- RegEx can be used to check if a string contains the specified search pattern.
- Python has a built-in package called re, which can be used to work with Regular Expressions.

Example: import re

```
txt = "The rain in Spain"
```

```
x = re.search("^The.*Spain$", txt)
```

# Metacharacters

[]	A set of characters	"[a-m]"
\	Signals a special sequence (can also be used to escape special characters)	"\d"
.	Any character (except newline character)	"he..o"
^	Starts with	"^hello"
\$	Ends with	"planet\$"
*	Zero or more occurrences	"he.*o"
+	One or more occurrences	"he.+o"
?	Zero or one occurrences	"he.?o"
{}	Exactly the specified number of occurrences	"he.{2}o"
	Either or	"falls stays"
()	Capture and group	

# Special sequences

\A	Returns a match if the specified characters are at the beginning of the string	"\AThe"
\b	Returns a match where the specified characters are at the beginning or at the end of a word	r"\bain" r"ain\b"
\B	Returns a match where the specified characters are present, but NOT at the beginning (or at the end) of a word	r"\Bain" r"ain\B"
\d	Returns a match where the string contains digits (numbers from 0-9)	"\d"
\D	Returns a match where the string DOES NOT contain digits	"\D"
\s	Returns a match where the string contains a white space character	"\s"
\S	Returns a match where the string DOES NOT contain a white space character	"\S"
\w	Returns a match where the string contains any word characters (characters from a to Z, digits from 0-9, and the underscore _ character)	"\w"
\W	Returns a match where the string DOES NOT contain any word characters	"\W"
\Z	Returns a match if the specified characters are at the end of the string	"Spain\Z"



# RegEx Functions

<u>findall</u>	Returns a list containing all matches
<u>search</u>	Returns a <u>Match object</u> if there is a match anywhere in the string
<u>split</u>	Returns a list where the string has been split at each match
<u>sub</u>	Replaces one or many matches with a string