→ # Multi Value Data type / Collection Data type

      If multiple values are associated with. single variable or if multiple values are stored inside single memory location then it is called as MVDT/CDT.

There are 5 types

1. String
2. List
3. Tuple
4. Set
5. Dictionary .

1. String : String is a collection of characters

- Anything which occupies a block of memory is called as character, it includes alphabets, special & numbers.
- String should enclose b/w '' / " "
- If we start a string with (') then we have to end it with (') itself because inside the string everything is considered as characters

      Example : st = 'abc"

        Syntax Error : Unterminated string literal.

          st = 'abc"'

          print (st)

           abc".

- **Syntax !**

     var = 'char1 char2 .... charn'.

     Ex: a = 'a,b,c,d'.

- String is an ordered data type. [the order of i/p is same as order of o/p]

- String is immutable data type

     Example : st = 'hai'

        st[2] = 'x'

        Type Error, 'st' does not support item assignment.

- The default value for string is '' / " "

NOTE : Immutable Data type : Once we assign the values to the variable a memory block is going to create for the variable inside that memory block, we can't do any modification.

1. St = 'Multi-value, collection d.t 2059

	M	u	l	t	i	-	v	a	l	u	e	,	c	o	l	l	e	c	t	i	o	n	d	.	t		2	0	5	9	

Negative indices (top): -31 -30 -29 -28 -27 -26 -25 -24 -23 -22 -21 -20 -19 -18 -17 -16 -15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1

Positive indices (bottom): 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

n = 31

1) 1st 'u' = a[1] / a[-30]

2) 'c' = a[12] / a[-19]

3) 'o' = a[7] / a[-24]

4) 'n' = a[21] / a[-10]

5) 2nd 't' = a[18] / a[-13]

6) '5' = a[29] / a[-2]

2. S = "whiteboard marker '12,34,56', [wipe"

w	h	i	t	e	b	o	a	r	d		m	a	r	k	e	r	'	1	2	,	3	4	,	5	6	'	,	[	w	i	p	e

Indices: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33

n = 84

1) 1st i = a[2]

2) 'b' = a[5]

3) 'd' = a[9]

4) m = a[11]

5) 2 = a[20]

6) 6 = a[26]

3. b = 'backspace 7845 capslock shift 1,2,3,,,6

b	a	c	k	s	p	a	c	e		7	8	4	5		c	a	p	s	l	o	c	k		s	h	i	f	t		1	,	2	,	3	,	,	,	6

Indices: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38

n = 39

1) 'b' = b[0]

2) 2nd c = b[7]

3) '8' = b[11]

4) 2nd 's' = b[18]

5) 2nd k = b[22]

6) 3rd space = b[23]

7) 't' = b[28]

8) '8' = b[34]

Program to find index number in the given string

→ txt = "Hello, welcome to my world."

value_to_find = "H"

index = txt.index(value_to_find)

print(f"The index of '{value_to_find}' is : {index}")