

# Lecture 12

## Strings in Python - Part 1

### Creating strings in python

```
In [1]: a = 'learners'  
print(a)  
print(type(a))
```

```
learners  
<class 'str'>
```

```
In [2]: b = "students"  
print(b)  
print(type(b))
```

```
students  
<class 'str'>
```

```
In [3]: str = "I am Swati \nThis is my first class"  
print(str)
```

```
I am Swati  
This is my first class
```

### Multiine strings

```
In [5]: a = """Data science is "a concept to unify statistics,
data analysis, informatics, and their related methods"
to "understand and analyze actual phenomena" with data.[5]
It uses techniques and theories drawn from many fields
within the context of mathematics, statistics, computer science,
information science, and domain knowledge.[6] However,
data science is different from computer science
and information science. Turing Award winner Jim
Gray imagined data science as a "fourth paradigm"
of science (empirical, theoretical, computational, and now data-driven)
and asserted that "everything about science is
changing because of the impact of information
technology" and the data deluge"""

print(a)
```

Data science is "a concept to unify statistics, data analysis, informatics, and their related methods" to "understand and analyze actual phenomena" with data.[5] It uses techniques and theories drawn from many fields within the context of mathematics, statistics, computer science, information science, and domain knowledge.[6] However, data science is different from computer science and information science. Turing Award winner Jim Gray imagined data science as a "fourth paradigm" of science (empirical, theoretical, computational, and now data-driven) and asserted that "everything about science is changing because of the impact of information technology" and the data deluge

## Indexing of strings

```
In [12]: a = "Hello dear learners"
print(a[0])
print(a[1])
print(a[2])
print(a[3])
print(a[4])
print(a[5])
print(a[6])
```

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```
In [13]: a = "Hello dear learners"
print(a[-1])
print(a[-2])
print(a[-3])
print(a[-4])
```

s  
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e  
n

```
In [14]: b = "data science is the growing field"
print(b[-1],b[-2],b[-3])
```

d l e

## slicing

```
In [21]: a = "i am learning datascience"
print(a[0:4])
```

i am

```
In [22]: a = "i am learning datascience"
print(a[0:8])
```

i am lea

```
In [23]: a = "i am learning datascience"
print(a[:])
```

i am learning datascience

## slicing with jump

```
In [24]: a = "i am learning datascience"
print(a[0:10:2])
```

ia er

```
In [25]: a = "i am learning datascience"
print(a[0:10:3])
```

imen

```
In [27]: a = "i am learning datascience"  
print(a[:5])
```

iliai

## negative slicing

```
In [28]: a = "i am learning datascience"  
print(a[-6:-1])
```

cienc

```
In [30]: a = "i am learning datascience"  
print(a[-16:])
```

ning datascience

```
In [31]: a = "i am learning datascience"  
print(a[-18:-1:2])
```

ann aacec

## practice question

```
In [ ]: Write a Python function that takes a  
date string in the format "YYYY-MM-DD"  
and returns a tuple containing  
the year, month, and day as integers.
```

Example Input: "2024-05-28"

Expected Output: (2024, 5, 28)

```
In [37]: def extract_date_parts(date_string):  
year = int(date_string[0:4])  
month = int(date_string[5:7])  
day = int(date_string[8:])  
return (year, month, day)
```

```
In [38]: extract_date_parts("2024-05-28")
```

```
Out[38]: (2024, 5, 28)
```

```
In [39]: extract_date_parts("2032-10-15")
```

```
Out[39]: (2032, 10, 15)
```

```
In [ ]: write a python program to reverse the string " honesty is the best policy"
```

```
In [40]: str = "honesty is the best policy"
print(str[::-1])
```

```
ycilop tseb eht si ytseoh
```

```
In [ ]: Write a Python function that takes a string
as input and returns the substring
from the 3rd to the 8th character.
```

```
"Data science"
"hello world, i am learning python"
"All the best"
```

```
In [41]: def substring_3_to_8(text):
        return text[2:8]

# Test the function
print(substring_3_to_8("Data Science")) # Output: 'ta Sci'
print(substring_3_to_8("Hello World"))
```

```
ta Sci
llo Wo
```

```
In [ ]:
```