

SET DS: It is an unordered, mutable collection of unique elements.

- * Define using `set()` or `{}`
- * It automatically delete duplicates.
- * Heterogeneous in nature.

06/10/2025, Monday.

Dictionary: Always values stored in Key: value pairs.

- Here key is immutable & values are mutable.
- We represent dict by `dict()` or `{}`

1) Create a str made of the middle 3 chars. Write a pro to create a new string made of — of an input str.

Str = input("Enter a string: ")

$\text{pos} = \text{len}(\text{str}) // 2$

$\text{m} = \text{str}[\text{pos}]$

if $\text{len}(\text{str}) >= 3$:

$\text{result} = \text{str}[\text{pos}-1 : \text{pos}+2]$

`print(result)`

Ex: "JoeDuguo"
0 1 2 3 4 5 6 7

$\text{mid} - 1$ → one character before the middle.

$\text{mid} + 2$ → 2 character after the middle. (be2 the end index is exclusive).

The middle char is 'U' $\text{mid} - 1$ means D, $\text{mid} + 2$ means e.
o/p: Due.

2) Write a program to create a new string S3 by appending S2 in the middle of S1.

Sample o/p

S1 = "Ault" S2 = "Kelly" Expected → AuKellylt.

S1 = "Ault"

S2 = "Kelly"

$\text{pos} = \text{len}(\text{S1}) // 2$

$\text{S3} = \text{S1}[:\text{pos}] + \text{S2} + \text{S1}[\text{pos}:]$

`print(S3)`

$\text{pos} = 3 // 2 = 1$

$\text{S1}[:1] = \text{Au}$

$\text{S1}[2:] = \text{lt}$