Python and Latex Keynotes

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1 Python

1.1 type hinting:

These don't enforce types at runtime, but they:

- Help with readability.

- Enable better auto-completion and linting in editors like VS Code or PyCharm.

- Make it easier for tools like mypy, Pyright, or Pylance to check for type correctness.

example of type hinting in older python versions:

```
1    class NN(MLP):
2    def test(self, x_test, y_test):
3        # expected x_test and y_test to be np.ndarray
4        return some_float_value
```

modern examples:

```
1    def my_func(data: list[int]) -> dict[str, float]:
```

or:

```
1    def test(self, x_test: np.ndarray, y_test: np.ndarray) -> float:
```

This is just a function declaration inside a class, but with type annotations:

- x_test: np.ndarray – This says that x_test is expected to be a NumPy array.

- y_test: np.ndarray – Same for y_test.

- -> float – The function is expected to return a float.

2 Numpy