



# VARIABLES AND DATA TYPES

## PYTHON BASICS

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## Variables and Data Types

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```
1 # Define a variable 'apple' and assign it the value 400
2 apple = 400
3 apple
```

Python

```
1 # Check the data type of the variable 'apple'
2 type(apple)
```

Python

```
1 # Define a variable 'pie' and assign it the value 3.14
2 pie = 3.14
3 pie
```

Python

```
1 # Check the data type of the variable 'pie'
2 type(pie)
```

Python

```
1 # Define a variable 'grade' and assign it the value 'A'
2 grade = 'A'
3 grade
```

Python

```
1 # Check the data type of the variable 'grade'
2 type(grade)
```

Python

```
1 # Define a variable 'is_active' and assign it the value True
2 is_active = True
3 is_active
```

Python

```
1 # Check the data type of the variable 'is_active'
2 type(is_active)
```

Python

```
1 # Define a variable 'message' and assign it the value "Hello, World!"
2 message = "Hello, World!"
3 message
```

Python

```
1 # Check the data type of the variable 'message'
2 type(message)
```

Python



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## Data Structures

### List

```
1 # Define a list 'fruits' containing three elements
2 fruits = ["apple", "orange", "grapes"]
3 fruits
```

Python

```
1 # Check the data type of the variable 'fruits'
2 type(fruits)
```

Python

```
1 # Access the second element in the list 'fruits' (index 1)
2 fruits[1]
```

Python

```
1 # Modify the second element in the list 'fruits' to "mango"
2 fruits[1] = "mango"
```

Python

```
1 # Output the modified list 'fruits'
2 fruits
```

Python

### Tuple

```
1 # Define a tuple 'fruits' containing three elements
2 fruits = ("apple", "orange", "grapes")
3 fruits
```

Python

```
1 # Check the data type of the variable 'fruits'
2 type(fruits)
```

Python

```
1 # Access the first element in the tuple 'fruits' (index 0)
2 fruits[0]
```

Python

```
1 # Attempt to modify the first element in the tuple 'fruits' (this will raise an error)
2 fruits[0] = "mango"
```

Python

### Dictionary

```
1 # Define a dictionary 'employee' with three key-value pairs
2 employee = {"name": "Ada",
3            "age": 25,
4            "city": "New York"}
5 employee
```

Python

```
1 # Check the data type of the variable 'employee'
2 type(employee)
```

Python

```
1 # Access the value associated with the key 'age' in the dictionary 'employee'
2 employee["age"]
```

Python

```
1 # Modify the value associated with the key 'age' in the dictionary 'employee'
2 employee["age"] = 30
```

Python

```
1 # Output the modified dictionary 'employee'
2 employee
```

Python