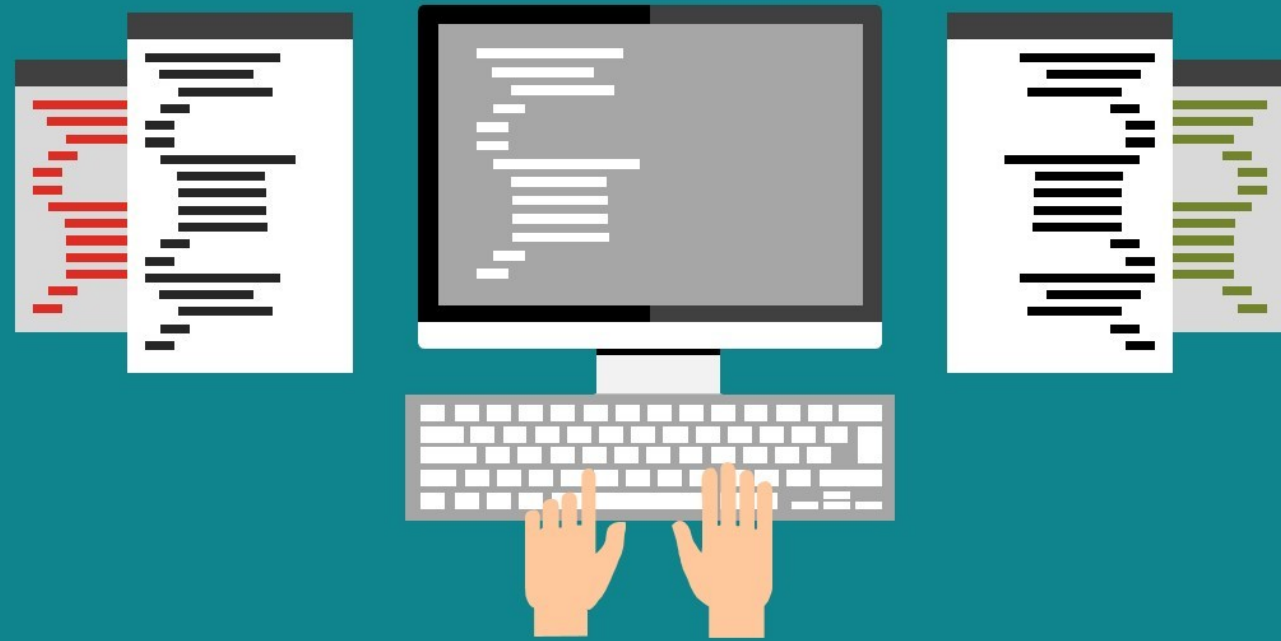


C: types



Data types

- **Integers**
 - `x=10, y=100 ...`
- **Floats**
 - `pi=3.14, a=10.10, rate=0.0992929`
- **Strings** (text)
 - `name="Stelios", age="32"`
- **Boolean** (True or False, 1 or 0)
 - `headphones=True`

Working with numbers!

- Everything that the user inputs from the keyboard Python assumes that it is a **TEXT**!
- We need to transform text to numbers to make operations
 - Text to integer
 - Text to float

```
# The input is 10
x = input("Give a number")
print(x)

# x is a text, even if it looks like a number
# This will print 10!

# This is another input
x = input("Give a number")
print(x+20)

# Python does not know that x is a numbers...
# This will cause an error
```

What is the output?

```
# This is an input
x = input("Give a number")
print(x * 2)

# This is how you comment multiple lines...
"""

What does it print if the user enters 10?

    a. 20

    b. An error ...

    c. 1010

The correct answer is 1010
"""
```

Data types conversions

- String to Integer
 - use `int(<value>)`

```
# This is another input example
```

```
x = input("Give a number")
```

```
print(int(x) * 2)
```

```
""" What does it print if the user enters  
10?
```

```
    a. 20
```

```
    b. An error ...
```

```
    c. 1010
```

The correct answer is 20

```
"""
```

Data types conversions

- String to Integer
 - use `int(<value>)`

```
# Hint
```

```
# If you except an integer, convert the input to integer directly
```

```
x = int(input("Give an integer number"))
```

```
print(x * 2) # Will print 20!
```

Data types conversions

- String to Float
 - use `float(<value>)`

```
# This is another input example
x = input("Give a number")
print(float(x) + 2)

# What does it print if the user enters 10.5?
```

The correct answer is 12.5

Data types conversions

- Int to String
 - use `str(<value>)`

```
x = 10
```

```
# What does it print?
```

```
print("ID" + x)
```

The correct answer is error

```
# What does it print?
```

```
print("a" + str(x))
```

The correct answer is a10

Recap

- Data types:
 - Integers: `x=10, y=100 ...`
 - Floats: `pi=3.14, a=10.10, rate=0.0992929`
 - Strings (text): `name="Stelios", age="32"`
 - Boolean (True or False, 1 or 0): `headphones=True`
- Converting types:
 - `int(<value>), float(<value>), str(<value>)`

Quiz 4

- What is the output of the following script?

```
a = input("give a number")  
# The user enters 10  
b = input("give a second number")  
# The user enters 20  
print(a+b)
```

Quiz 4 Solution

- What is the output of the following script?

```
a = input("give a number")           # The user enters 10
b = input("give a second number")    # The user enters 20
print(a+b)
```

If input is 10 and then 20 this will print 1020!

```
a = int(input("give a number"))
b = int(input("give a second number"))
print(a+b)
```

This will print 30!