

٢٧ ربيع الآخر  
باب ٢٠

الأربعاء  
WEDNESDAY

٣٠ أكتوبر  
30 OCTOBER

age = 20

print("age") → age

print(age) → 20

print("you are" + str(age) + "years old")

→ you are 20 years old

print("you are ", age, "years old")

→ you are 20 years old

f-string → print(f"you are {age} years old")

\* variable = a reusable container for storing a value

\* variable behaves as if it were the value it contains

\* Data types:

there are different data types but the basic four

• Integer ⇒ a whole number types are:

→ age = 20, players = 11

ex

• Float ⇒ a number that contains a decimal portion

gpa = 3.2, price = 10.99

ex. ....

الثلاثاء  
TUESDAY

٢٦ ربيع الآخر  
باب ١٩

٢٩ أكتوبر  
29 OCTOBER

• string ⇒ a series of text

name = "Essam Shenhab"

Food = "pizza"

ex. print(f"Hello {name}")

• Boolean ⇒ a variable that only has two state (true or false)

online = True, For-sale = False

print(f"Is Ahmed online? {online}")

→ Is Ahmed online? True

if online:

print("Ahmed is online")

else:

print("Ahmed is offline")

→ Ahmed is online

Ps. "True" → string | True → Boolean | True not true

Tips: x, y, z = 1, 2, 3 ⇒ multiple assignment

x = y = z = 0

\* **Type casting**:- The process of converting a value of one data type to another (string, integer, float, boolean)

```
print(type(name.....))
```

```
name = "Essam"
```

```
'str'
```

```
age = 20
```

```
'int'
```

```
gpa = 3.9
```

```
'float'
```

```
student = True
```

```
'bool'
```

• **Explicit**

```
age = Float(age)
```

```
print(age) → 21.0
```

```
print(type(age)) → 'Float'
```

• **Implicit**

```
x = 2, y = 2.0
```

```
x = x / y
```

```
print(x) → 1.0
```

\* **Input**

```
name = input(".....")
```

```
age = int(input("....."))
```

```
age = age + 1
```

```
print(f"Hello {name}")
```

```
print(f"You are {age} years old")
```

To Limit the float number into two decimal places: `round(total, 2)`

\* **math**

```
|-4| = abs(-4)
```

```
x = 3.14, y = 4, z = 5
```

```
max(x, y, z) → 5, min(x, y, z) → 3.14
```

• **Import math**

```
print(math.pi) → 3.1415
```

```
print(math.e) → 2.71
```

```
print(math.sqrt(9)) → 3.0
```

```
print(math.ceil(3.1)) → 4
```

```
print(math.floor(3.9)) → 3
```



٢٣ ربيع الآخر

١٦ باب

السبت

SATURDAY

٢٦ أكتوبر

26 OCTOBER

\* Conditions (if, elif, else): -

if = Do some code only IF some condition is True  
Else do something else

age = int(input())

if age &gt;= 18:

print("...")

elif age &lt; 0:

print("...")

else:

print("...")

online = False

if online:

print("...")

else:

print("The user is offline")

→ The user is offline

٢٢ ربيع الآخر

١٥ باب

الجمعة

FRIDAY

٢٥ أكتوبر

25 OCTOBER

\* String: - a series of characters

name = input() → Essam shenhob

len() → gives the length of a string  
↳ 13name.find(" ") → 5  
↳ space

name.find("s") → 1

name.rfind("s") → 6

name.find("q") → -1 → مش موجود

name.capitalize() → Essam shenhob

name.upper() → ESSAM SHENHOB

name.lower() → essam shenhob

name.isdigit() → False → تكون True إذا كانت على أرقام فقط

name.isalpha(essam shenhob) → False → يكون إذا كانت على حروف فقط

name.isalpha(essamshenhob) → True → وإذا space لا تعتبر حرف

name.count("s") → 3 → "s" حسب عددها

name.replace(" ", "-") → essam-shenhob

print(help(str)) → gives a comprehensive list of all the string methods available

٢١ ربيع الآخر

باب ١٤

الخميس

THURSDAY

٢٤ أكتوبر

24 OCTOBER

\* string indexing:- accessing elements of a sequence using `[]` (indexing operators)  
`[start:end:step]`

Full\_name = Essam\_Shenhab

`print(Full_name[0])` → E , `[1]` → S

• `[5]` → — `[ : 5 ]` →

`print(Full_name[0:5])` → Essam

`print(Full_name[6:13])` → Shenhab

`[6: ]` →

`print(Full_name[-1])` → b , `[-2]` → a

`print(Full_name[::2])` → Es m Sh hb

`print(Full_name[::-1])` → b a h n e h s \_ m a s s e

`email = input()` → Essam@gmail.com

`index = email.index("@")`

`user name = email[:index]`

`domain = email[index+1:]`

`print(username)` → Essam

`print(domain)` → gmail.com

P.S: `username = email[:email.index("@")]`

٢٠ ربيع الآخر

باب ١٢

الأربعاء

WEDNESDAY

٢٣ أكتوبر

23 OCTOBER

\* While Loops → execute some code WHILE some conditions remains true

`name = input()`

`while name == "":`

`print("you didn't enter anything")`

`name = input()`

`print(f"Hello {name}")`

`Food = input()`

`while not Food == "q"`

`print(f"you like {Food}")`

`Food = input()`

`print("salam")`

`num = int(input("Enter a number between 1-10"))`

`while num < 1 or num > 10:`

`print(f"{num} is not valid")`

`num = int(input("..."))`

`print(f"your number is {num}")`



١٩ ربيع الآخر

باب ١٢

الثلاثاء

TUESDAY

٢٢ أكتوبر

22 OCTOBER

\* For Loops:- execute a block of code a fixed number of times  
You iterate over range, string, sequence, etc.

Counting to ten:-

```
for x in range(1,11):
    print(x)
```

→ 1  
2  
3  
4  
5  
6  
7  
8  
9  
10

Counting to ten backwards:-

```
for x in reversed(range(1,11)):
    print(x)
```

→ 10  
9  
8  
7  
6  
5  
4  
3  
2  
1

Counting to ten by threes:-

```
for x in range(1,11,3):
    print(x)
```

→ 1  
4  
7  
10

random number  
= 1234 - 5689

```
for x in random.number:
    print(x)
```

→ 1  
2  
3  
4  
5  
6  
8  
9

١٨ ربيع الآخر

باب ١١

الاثنين

MONDAY

٢١ أكتوبر

21 OCTOBER

for x in range(1,6):	for x in range(1,6):
if x == 3:	if x == 3:
continue	break
else:	else:
print(x)	print(x)
→ 1	→ 1
2	2
4	
5	

\* Nested Loop:- A loop within another loop (outer, inner)

Outer Loop:

inner loop:

while : for :

while : for :

while : for :

for : while :