

Python Lists & Arrays

By

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Lecture outline

why do we
need arrays
or lists.

Examples &
applications
of lists and
arrays

How they
are used

Examples &
assignments

Do we need lists !

للحوم الطازجة والمجمدة والموايد الغذائية

عنوان | WPCC-PC 016556 فاتورة مبيعات آجلة

17.01.2018 15:31:13

الوصف	الكمية	القيمة
ارز الجوهرة 1ك	3 قطعة	16.50
دجاج سيرا 1100 جرام	1 قطعة	20.00
مفروم لحم وط	1 كيلو	30.00
زبادي ممزوج بولاي اللسيم	8 قطعة	10.00
مكرونة سبيكة سبيكتي 500ج	3 قطعة	10.50
حليب جودي عليه 384م	6 قطعة	40.50
كلوركس	1 قطعة	8.00
عدد الوحدات	7	135.50
المدفوع	0.00	0.00
المسترد	0.00	135.50
الزبون	موبى كاش	
رصيد الزبون		

Item	qty	Unit Price	Amount
rice	2	1000	2000
salt	1	500	500
juice	6	200	1200
Mango	10	300	3000
sweets	2	500	100
Total			6800

total = 0

for i in range (0,5,1):

price=int(input("Enter Price:"))

qty = int(input("Enter qty:"))

amount = qty * price

total = total +amount

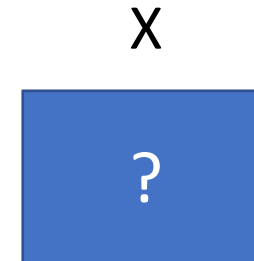
print(total)

Do we need lists !

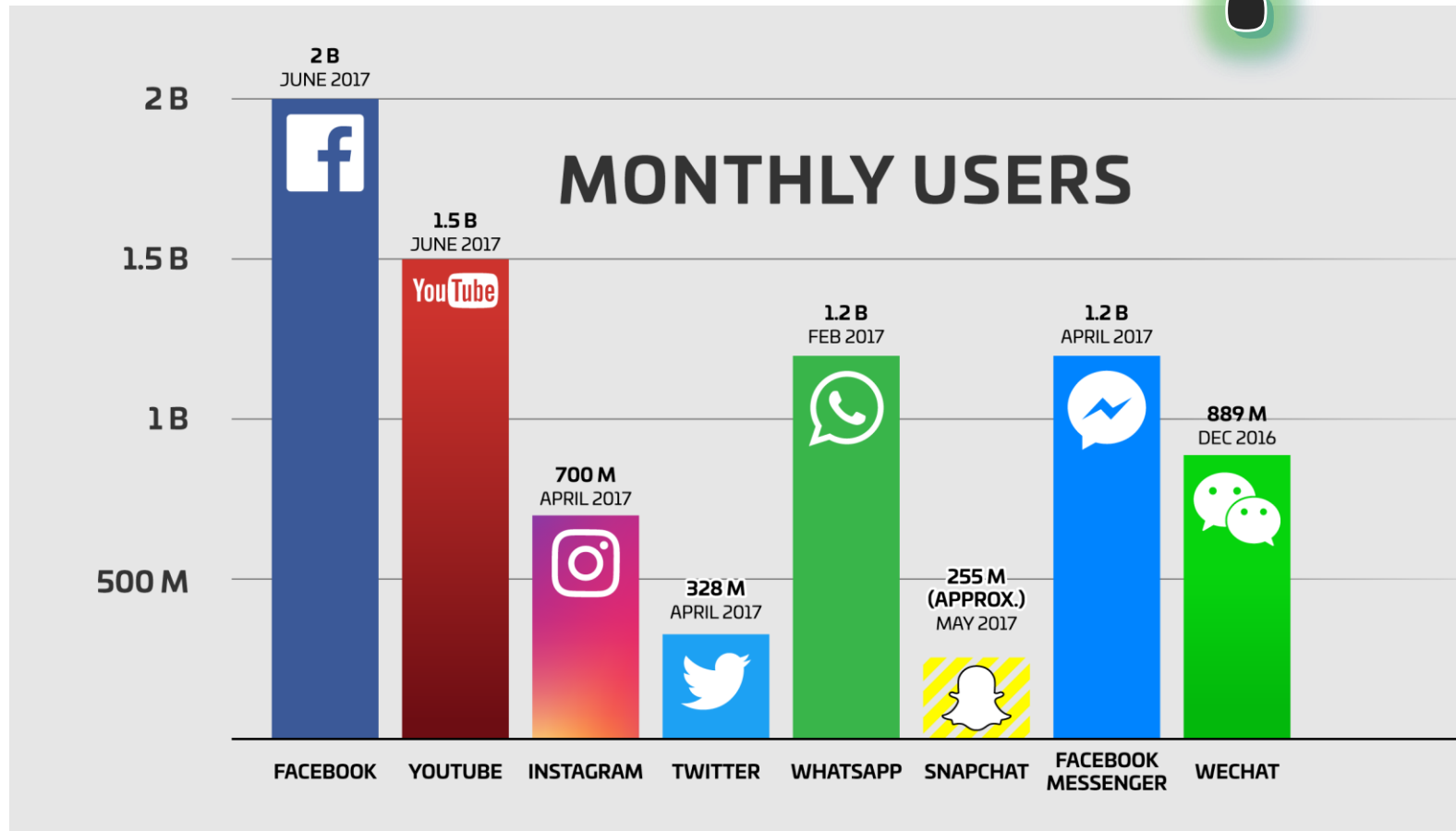
Single variable		<div>1</div>				
Array:	Indexes	0	1	2	3	4
	Values	1	3	8	23	99

- Read a list of integer numbers and print the sum as following:
 - If the numbers are 5, and they are, say: 9, 11, 20, 3, and 61
 - Then print the sum as $9 + 11 + 20 + 3 + 61 = 104$
 - Here, you must save every number and then print it

```
total = 0
for i in range (0,5,1):
    x=int(input("Enter number :"))
    total = total +x
print(total)
```



Do we need lists !



	A	B	C
1			
2	Subject	Student	Score
3	Maths	Hammad	66
4	English	Hammad	77
5	Science	Hammad	44
6	French	Hammad	55
7	Management	Hammad	88
8	Economics	Hammad	77
9	Business	Hammad	98
10	Accounting	Hammad	88
11	Auditing	Hammad	87
12	Finance	Hammad	76
13	Maths	Steve	67
14	English	Steve	86
15	Science	Steve	77
16	French	Steve	86
17	Management	Steve	56

Do we need lists !

- Student marks

```
total = 0
for i in range (0,4,1):
    x=int(input("Enter number :"))
    total = total +x
print(total)
```

Single variable	1					
Array:	Indexes	0	1	2	3	4
	Values	1	3	8	23	99

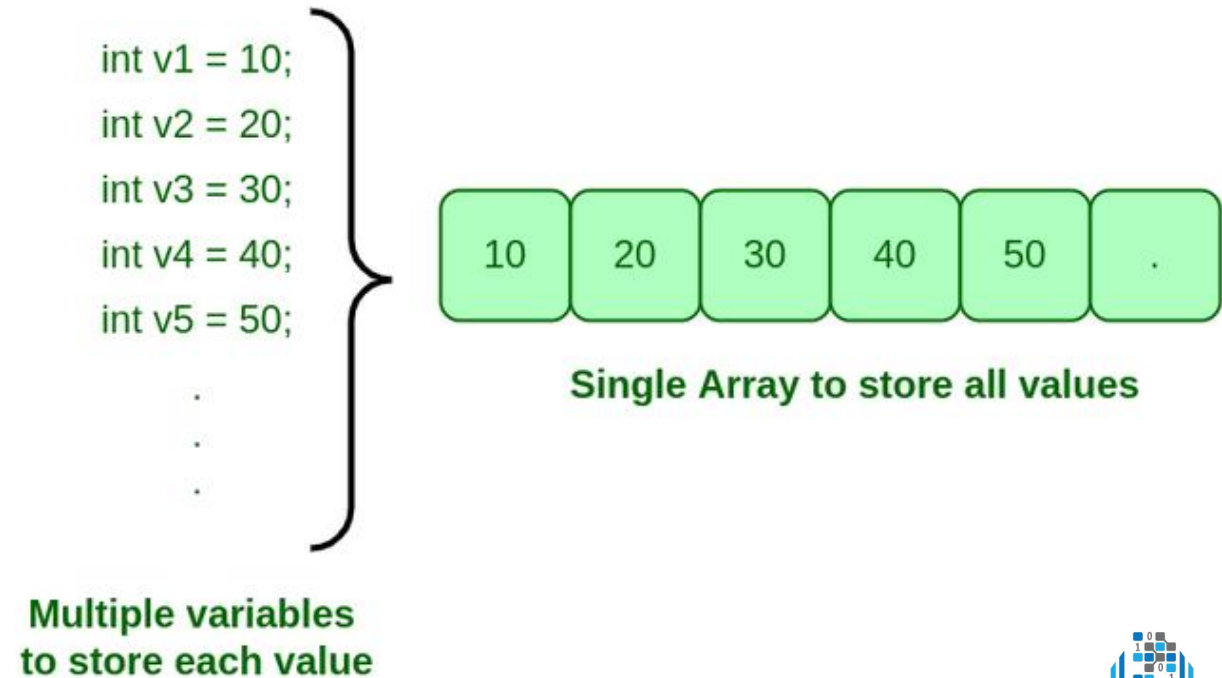
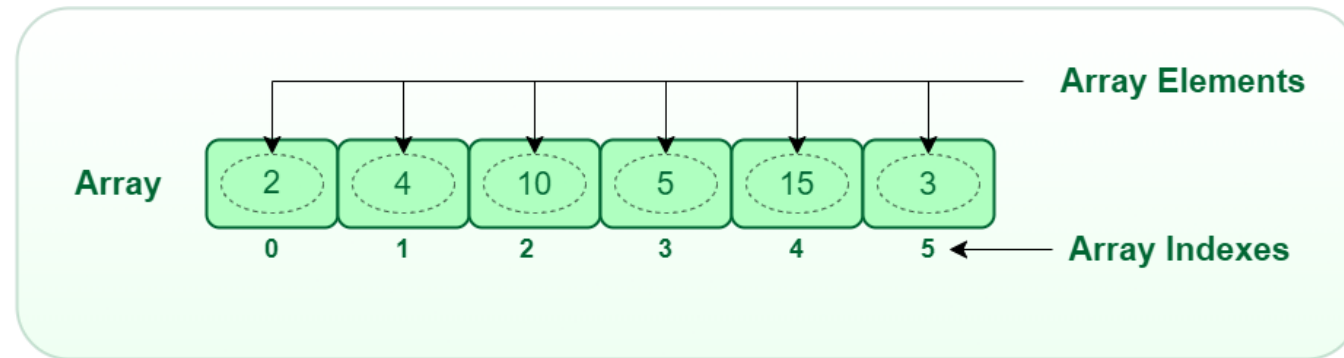
X

90	80	77	66
----	----	----	----

Python List fundamentals?

As a **set** of **ordered** elements, stored and identified under a **single identifier** or name

Single variable	1					
Array:	Indexes	0	1	2	3	4
	Values	1	3	8	23	99



Fundamentals of Python Lists

As a **set of ordered** elements, stored and identified under a **single identifier** or name

Value

Index

PYnative.com

List in Python 🐍

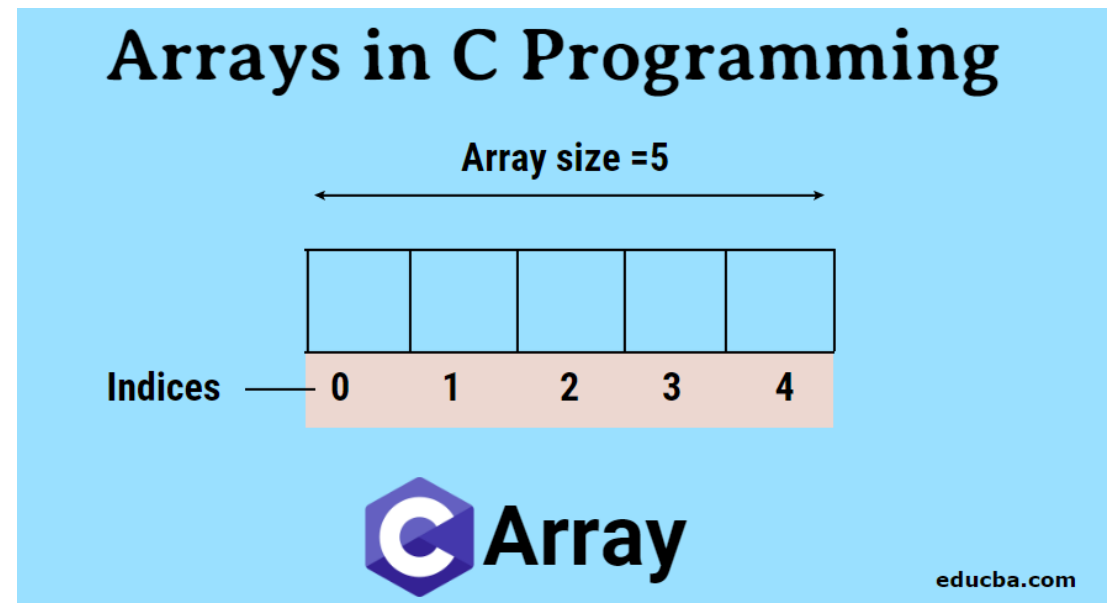
```
L = [ 20, 'Jessa', 35.75, [30, 60, 90] ]
```

L[0] L[1] L[2] L[3]

- ✓ **Ordered**: Maintain the order of the data insertion.
- ✓ **Changeable**: List is mutable and we can modify items.
- ✓ **Heterogeneous**: List can contain data of different types
- ✓ **Contains duplicate**: Allows duplicates data

Arrays?

As a set of ordered elements, **of the same type** stored and identified under a single identifier or name



40	55	63	17	22	68	89	97	89
0	1	2	3	4	5	6	7	8

<- Array Indices

Array Length = 9

First Index = 0

Last Index = 8



Thank U

- Discussion

