Notes

Date / /

Narrow Core Computer Science

Send email to all SPOS Internal.

Sunway NUST Peradeniya

King Mongkuts

print ("Hello Python 101')

Comment

Semantic + Syntactic Errors.

What will be result of executing print ("Hello\nWorld!") ?

#print ("Hello World")

Data Types.

Integer	11	int
Real Numbers	21.213	float
Strings	"Hello Python 101"	str

Notes

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type (11) ⟶ int

int

-4, -3, -2, -1, 0, 1, 2, 3, 4.

float 0, 1

0.1, 0.2, 0.3, 0.4, 0.5, 06, 0.7, 0.8, 0.9

0.51, 052, 0.53, ... 0.59

Typecast

Convert int to float

float(2) = 2

int(1.1) = 1 lose Info

int('1') = 1

int('A') = Error. X

str(1) = "1" str(4.5) = "4.5"

Notes

Boo

type

type

Who

int

2

"F

Writ

Boo

bool

Notes 12,14 Date / /

Boolean

True False

type (True) = bool (1)
type (False) : bool (0)

Eg. int(True)
True → 1
False int(False) → 0

1. bool(1) → True
0 bool(0) → False

What is the type of the following?

int (1.0)
2.3 "True"
79 bool(1)
"Ram" True

Write code to convert the number 1 to Boolean?

bool(7)

What will be output on float('A')?

Notes Date / /

Mathmatical Operations

43 + 60 + 16 + 41

50 - 60

5 * 5

25 | 5

25 | 6

25 || 5 5

25 || 6 4

2 * 60 + 30

30 + 2 * 60

30 + 120 = 150

(30+2) * 60

1920

Notes Date / /

myVariable = 1

Numpy my_variable: 1

X = 43 + 60 + 16 + 41

X: 160

y = X/60 y = 2.666.

type(x).

total_min = 43 + 42 + 57.

total_hr = total_min / 60

≈ 2.367

String.

A string is a sequence of characters contained within 2 quotes:

Name = "Micheal Jackson"

u can single quote:

| M | i | k | H | | | | | | | | | | | | |

0 1 2 . . . .

-15 . . . . -2 -1

Name[0] = 'M'

Name[6] = 'l'

Name[13]: 0

Notes Date / /

Name [0:4] = Mich

Nome [8:12] = Jack

Name [::2] : "McalJcsn"

Name[0:5:2] : "Mca"

len ("Michael Jackson")
len (Name)

Statement = Nome + " is the best"

3 * "Michael Jackson"

MJ MJ MJ

Name [0] = "J" ✗

\n - new line } escape sequences.
\t - tab

How to print backslash?
use "\\" or 2 "s"

Notes

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String Operation

A = "Thriller is the sixth studio album"

B = A.upper()

B = A.replace('Michael', 'Janet')

A.find('el'): 5

Name.find('a'): -1

A.find('Jack'): 8

Q. "0123456".find('1')

Q. Numbers = "0123456"

Obtain even numbers.

Number[::2]

Notes Date / /

Taylor University.

What is the result of the following operation in Python

3+2*2

name = 'Lizz' name[0:2]

var = '0124567' var[::2]

'1'+'2'

myvar = 'hello' Command to convert it to uppercase?

Regular Expression.

import re RegEx

- search
- findall
- split
- sub

⊙ Search()

This search 'Jackson' in string 'Michael Jackson is the best'

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```
s1 = 'Michael Jackson is the best'
# Define the pattern to search for
pattern = r'Jackson'

# Use the search() func" to search
for the pattern in the string.
result = re.search(pattern, s1)

# check if a match was found
if result:
    print("Match found!")
else:
    print("Match not found.")
```

		String	RE
\d	digits	123	\d\d\d
\D	non-digit	hello	\D\D\D\D\D
\w	a-z A-Z 0-9 _ any character word	hello_world	
\W	non-word ch	@#$%	
\s	whitespaces space, newline, tab	hello world	(\w)\w\s(\w)^{5}
\S	non-whitespaces	hello_world	(\S)"$
\b	Matches boundry b/w word & non-word	cat matches "\bcat\b" in "I love cat as pet"	

Notes Date / /

\B any Positim \Bcat\B matches "category", but not "The Cat Sat on the mat".

Notes

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Current Profile

Area / ReLocation / Expected Sal

Time to Join [Data Warehouse]

Manish

Data Analytics / Full-Time

Bhavna

Software Company.

AI ML 80K pm

LDP Shared

List of Experiment ~~Shared~~ Prepared

Quiz 4 Lab Assignment / Assignment

Email Quiz marks.

Notes

Date / /

① DEI SPOC MOU

② Twining Programme

Kit to 150 Students Participants
10 faculty

Blue T-Shirt

Wednesday By

Stay for Hostel Suresh /
Food - Sriya Ram. / Snack.
Sponsorship
Book EC conference / IBM / 424

Decoration —
Car from station / —
2 Taxi - Rs 600 / —

Notes Date / /

4 Lunch Compound data Types

Tuples

Tuples are ordered sequences

~~tuple =~~

Ratings = (10, 9, 6, 5, 10, 8, 9, 6, 2)

'disco'	10	1.2
str	int	float

tuple1 = ('disco', 10, 1.2)

type(tuple1) O/P: tuple

tuple1[0]	O/P	'disco'	[-3]
[1]	O/P	10	[-2]
[2]	O/P	1.2	[-1]

Concatenate in tuples.

('disco', 10, 1.2)

Tuple 2 = tuple_1 + ("hard rock", 10)

('disco', 10, 1.2, "hard rock", 10)

0 1 2 3 4

Notes

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Slice: First 3 elements

tuple2[0:3] : ('disco', 10, 1.2)

tuple2[3:5] : ('hard rock', 10]

Note:- Last index is one larger than length of tuple

len (Type2) O/P 5

tuples are immutable.

Rating 1 = Ratings

Ratings ⟶ (10, 9, 6, 5, 10, 8, 9, 6, 2)

Rating 1 ⟶

Ratings[2] = 4

Ratings = (2, 10, 1)

Ratings ⟶ (2, 10, 1)

Rating 1 ⟶ (10, 9, 6, 5, 10, 8, 9, 6, 2)

Notes Date / /

RatingsSorted = sorted(Ratings)
(10, 9, 6, 5, 10, 8, 9, 6, 2)

Tuples: Nesting

NT = (1, 2, ("Pop", "rock"), (3,4), ("disco", (1,2)))

Index 0 1 2 3 4

NT[2] → O/P ("Pop", "rock")

~~18~~, 26, 27, 40, 43, 49, 52, 53,

AB7-315
~~-3X5~~

NT[2][0] "Pop" NT[2][0][0] P
NT[2][1] "rock"

NT[3][0] 3
NT[3][1] 4

Notes

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Letter for Malta
Petersberg.

① Zero Interface - Dipak Sah

Infosys - Priya T4P

Can Guest Lecture be organized by other.

Gemini Solutions email [I])

Tech M

Post Placement Data
How many in 2023?

Notes

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Faculty exchange online teaching

Project guidance

Seminar/

| Mobile number |

14-

Profile.

✓(1) Seminar - Sep -

✓(2) PG Student Guidance

✓(3) Visiting Academics

for 2 years // Virtual

(1)

✓(1) A Guest Lecture

✓(1) Reviewer / Reviewer //

✓(1) Call for Paper

⊗

+94 77966 768

Share Faculty & Domain

Notes Date / /

Keynote by Dilip.

17-19 Oct ICIS - @

Call for Paper / [Dharam Reviewer Profile]

Dr Dharam visit in December,

Submit for Project - RFD.

[Reviewer] Circullum Review ✓

VR & AR - First week of Octo

Staff Exchange

Colin - Collabrate on Solar Energy.

- This week

Joint Ciricullum Development

Keynote

IotSensor / Embedded

Notes

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Training Programme 21, 29, 31, 38, 39, 40, 43, 45, 49, 57,

- Circulum
- PPT — Premium part student
- ~~T~~

Germany

PhD Dilip

Room at December — 5-seat

Krishna Valley

40-60 - Student

Notes

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Lists

Lists are also ordered Seq
List has square brackets
List are mutable

["Michael Jackson", 10.1, 1982,
[1,2], ('A', 1)]

L = ["MJ", 10.1, 1982]
-3 -2 -1
0 1 2
L[0] : "MJ" L[1] : 10.1 L[2] = 1982

L = ["MJ", 10.1, 1982, "MJ", 1]

L[3:5] : "MJ", 1

L1 = L + ["pop", 10]
L1 = ["MJ", 10.1, 1982, "pop", 10]

L1. extend(["RP", 36])

L1 = ["MJ", 10.1, 1982, "pop", 10,
"RP", 36]

Notes

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```
L = ["MJ", 10.1, 1982]
L.append(["pop", 10])

L = ["MJ", 10.1, 1982, ["pop", 10]]

L = [11, 22, 33]                    (217)
L.append(44)        [11, 22, 33, 44]
L.pop(2)            [11, 22, 44]
L.remove(33)        [11, 22, 44]

L1 = [1, 2, 3]
L2 = [4, 5, 6]

L1.extend(L2)
L1  [1, 2, 3, 4, 5, 6]
```

Zipping List

```
for x,y in zip(L1, L2)      1, 4
                            2, 5
                            3, 6
```

Quiz

```
X = [10, 20, 30]
y = X
X[1] = 42
print(y)
```

y → [10, 42, 30]

[10, 42, 30]

Notes

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x ⟶ [10 ~~20~~ 42 30]

y ⟶ [10 20 30]

x = [10, 20, 30]

y = list(x) [x[:]]

x[1] = 42

print(y)

[10, 20, 30]

① List are mutable.

A = ['disco', 10, 1.2]

A[0] = "hard rock"

A = ["hard rock", 10, 1.2]

del (A[0])

A = [10, 1.2]

Notes Date / /

"hard rock".split()
['hard', 'rock']

Mom — About CEA, Syllabus, Higher Studies

What are Dictionaries.

①

Key	Value
'A12867'	'David Wu'
'A27691'	'Maria Sanchez'
'A16947'	'Tim Williams'
'A21934'	'Sarah Jones'

Key are immutable.

Key	Value
'CSE8A'	['Ram', 'Lakshman']
'CSE141'	['Jamvant', 'Sugreev', 'Hanuman']

Value can be anything.

Key	Value
('Ghostbusters', 2016)	5.4
('Ghostbusters', 1984)	7.8
('Cars', 2006)	7.1

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```
dict = {('Ghostbusters', 2016): 5.4,
        ('Ghostbusters', 1984): 7.8}

dict

dict[('Ghostbusters', 2016)]

len(dict)

dict[('Cars', 2006)] = 7.1
```

dict are unordered.

```
X = dict{[('Cars', 2006)]}
X
    7.1

X = dict[('Toy Story', 1995)]
```

Runtime Error.

```
X = dict.get(('Cars', 2006))
X
  7.1
```

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x = dict.get(('Toy Story', 1995))
x == None.

('Toy Story', 1995) in dict

dict.pop(('Ghostbusters', 2016))
5.4

del dict[('cars', 2006)]

List Comprehension

i = 1, 2, 3, . . . , 10

list = [i**2 for i in range(1, 11)]

[1 4 9 16 25, . . . 100]

list = [~~i*6 for i in range(1, 11)~~]
i for i in range(0, 6)

[0, 1, 2, 3, 4, 5]

i for i in range(0, 20, 2)

~~i for i i~~

0, 2, 4, 6, 8, 10, . . 18

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i%2 for i in range(0,10)
[0,1,0,1,0,1,0,1,0,1]
import random
list = [random.randint(0,5) for i in
range(0,10)]
list
[4,2,5,...0,2]

Dictionary Comprehension

dict = {i:i**2 for i in range(1,11)}
dict

{1:1, 2:4, ... 10:100}

dict = {i:chr(i) for i in range(65:91)}
dict

set
Unordered
Unique
Support set operation.

Notes Date / /

```
leos_colors = set(['blue', 'green', 'red'])
leos_colors

{'green', 'red', 'blue'}

leos_colors.add('yellow')

leos_colors.add('blue')

leos_colors.discard('green')

leos_colors = set(['blue', 'green', 'red'])
ilkays_colors = set(['blue', 'yellow'])

either = ilkays_colors.union(leos_colors)
either

{green, red, blue, yellow}

intersection {blue}
```

set1 | set2
set1 & set2

Notes Date / /

album_list = ["MJ", "Thriller", "Thriller", 1982]

album_set = set(album_list)

album_set

{'MJ', 'Thriller', 1982}

"MJ" in album_set

True

"JJ" in album_set

False

A = {"A", "B", "T"}

B = {"A", "B", "B"}

A & B

A = {"A", "B", "T"}

C = {"A", "B"}

A.issubset(A) TRUE