LISTS
Project

• Register your team
• Submit project description

• Schedule
  • Form a team and select topic: April 2
  • Alpha version: April 23
  • Beta version: May 21
Conditional statements

```python
if condition:
    commands
elif condition:
    commands
else:
    commands
```

- Checks if the condition is true
- If the first condition is false, then checks the second condition
- If all conditions are false, then executes the else-part
Loops

```python
while condition:
    command
    command
    command
```

Checks if the condition is true

After executing the last command
jumps back to check the condition again
Functions

def functionname(parameters):
    commands
    commands
    return expression

functionname (arguments)
Catching exceptions

```python
try :
    commands
    commands
except :
    commands
    commands
```

If no error occurs, then executes all commands in the try-block.

If the error occurs, then jumps to the except-block and executes all commands there.
Files

- Opening the file
  
  \[ \textit{file} = \textbf{open}(\textit{filename}, \textit{mode}) \]

- Reading from the file line by line
  
  \[ \textbf{for line in file:} \]
  \[ \quad \textit{actions with the line} \]

- Closing the file
  
  \[ \textit{file.close()} \]
Lists

List is an ordered collection of elements.

\[ \text{element} = a[index] \]
Looping through a list

```python
for i in range(len(a)):
    print(i, a[i])
```

- index
- element at index i
What will be printed?

```python
lst = [1, 3]
lst[1] = 4
print(lst)
```

A. [4, 3]
B. [1, 4]
C. [1, 3, 4]
D. [1, 4, 3]
E. something else
What will be printed?

```python
lst = [1, 3]
lst[1] = 4
print(lst)
```

A. [4, 3]  
B. [1, 4]  
C. [1, 3, 4]  
D. [1, 4, 3]  
E. something else
What will be printed?

```python
lst = [3, 4, 1, 0, -2, 7]
print(lst[lst[1]])
```

A. 4  
B. 3  
C. 1  
D. -2  
E. something else  
F. error message
What will be printed?

```
lst = [3, 4, 1, 0, -2, 7]
print(lst[lst[1]])
```

A. 4
B. 3
C. 1
D. -2
E. something else
F. error message

D. -2
What is the output?

```python
a = [2, 1, 5, 4, 3, 6]
b = a[2:]
print(min(b))
```

A. 1  
B. 2  
C. 3  
D. 4  
E. 5  
F. 6
What is the output?

```python
a = [2, 1, 5, 4, 3, 6]
b = a[2:]
print(min(b))
```

A. 1
B. 2
C. 3
D. 4
E. 5
F. 6

C. 3
How many numbers are printed?

```python
x = [4, 7, 2, 11, 3, 6, 8]
for i in range(len(x)):
    if x[i] < 5:
        print(i)
```

A. 0
B. 1
C. 2
D. 3
E. 4
F. 5 or more
How many numbers are printed?

```python
x = [4, 7, 2, 11, 3, 6, 8]
for i in range(len(x)):
    if x[i] < 5:
        print(i)
```

A. 0
B. 1
C. 2
D. 3
E. 4
F. 5 or more

Answer: D. 3
What will be printed?

```python
el = [1, 5, 7, 3, 6, 1]
v = el[0]
ind = 0
for i in range(len(el)):
    if el[i] > v:
        v = el[i]
        ind = i
print(ind)
```

A. 0  
B. 1  
C. 2  
D. 3  
E. 4  
F. 5
What will be printed?

e = [1, 5, 7, 3, 6, 1]
v = e[0]
ind = 0
for i in range(len(e)):
    if e[i] > v:
        v = e[i]
        ind = i
print(ind)
Exercises