Python 3

التاريخ: / / الموضوع: ______

# Exceptions

Syntax vs logical error:-

Writing code with missing chars (Not expected format) $\longrightarrow$ Error of dividing by zero or access invalid syntax

## Blocking errors

- Create array with no memory
- Open file with no permision
- Network disconnected during remote call
- Payment sys: pay a bill with no money
- Compute sqrt(x) $\downarrow$ it's negative
- access array index out of boundary.

$\Rightarrow$ ~~[illegible]~~ We can't continue processing $\rightarrow$ we want to communicate to handle it.

2 Major approches

Return error codes:-

$\hookrightarrow$ contribute with team for knowing which indicate that function is working or not as 0 $\rightarrow$ code works , 1 $\rightarrow$ doesn't

Throwing and Handeling Exceptions:-

$\hookrightarrow$ we stop process by handelling / raising error

$\hookrightarrow$ Then handel it propely

Raise exception example:-

```
def f(x):
    if x<0:
        raise ValueError(f'{x} is negative value')
    Print(x/2)
```

$\downarrow$

f(-10) $\rightarrow$ Value error(f'(x) is negative value)

Scanned with CamScanner

# Exception Hanteling

Try catch :-
↳ Help us Help ~~except~~ us Prevent exception from stopping the code.

Example :-

```
Def read_int(msg):
    try:
        age = input(msg)  → Enter age :
        age = int(age)    → if input is not numbers it
    except:                  will Raise error.
        Print('Invalid input')  ←
        age = None
    Return age
```

⇒ We can catch our errors without Breaking code.
We can add else block

```
else: Print("thanks") → Will Work if no exceptions
       ↙                 Happened
  if age is Number.
```

Finally Block :-
↳ Run in all cases → Runs at the end and If there is an else it will Run after it

```
else:
    Print("thanks")  → 1
finally:
    Print("End of func") → 2
Return age → 3.
```

else : and finally are Non mandatory code .

Overall :-

try :
[ Run this Code

Catch :
[ execute this Code Where there is an exception

else :
[ NO Exceptions Run this code

Finally :
[ Always run this Code.