# Lab 3: Errors, Exceptions & Methods

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# GitHub Classroom

## Lab 3 – Errors and Exceptions

# Exceptions

## Expected errors

- Why would you ever expect errors?
- If you can expect something, can't you prevent that?

## Types of exceptions

- IndexError
- ImportError
- MemoryError
- NameError
- OverflowError
- RecursionError
- TypeError
- ZeroDivisionError
- … and many more!

# Exceptions

## What happens if exception occurs?

- Do we just give up?
- Sometimes we need to salvage as much as possible

## Try-except block

- **Try**: Attempt to execute a 'suspicious' set of codes
  - e.g., division, file opening, network connection, etc.
- **Except**: If something bad happens, stop the execution and call an emergency routine

```
try:
    <Your statements here>
except <Name of first exception you wish to handle>:
    <Your emergency code here>
except <Name of first exception you wish to handle>:
    <Your other emergency code here>
else:
    <If no exception…>
```

# Exercise

We receive the user's birth year, month and day from the `input()` function

## Input format

- Year format should be YYYY (e.g., 2002)
- Month should be MM (e.g., 05)
- Day should be DD (e.g., 01)

**Goal:** Your code should print out a number of the form 'YYMMDD'

- E.g., '020501' for the above example
- The 'YY' part is the last two digits of the year (Hint: use the modulo operator)

Closely examine the skeleton code (lab3.py) to infer the data types

- You are not allowed to change existing codes
- Only fill in the 'TODO' parts

You are expected to finish this task in less than 60min

# Exercise

All input should be valid numbers!

If an input is invalid, a '00' should instead be used

**Task 1** Use exception handling to take care of the number format

- These dates should strictly consist of numbers
- Forcibly converting a non-numeric string to a number will result in an exception

**Task 2** Use string methods to achieve the same result

- How do you find out if the string consists of numbers?
- You can find the appropriate method in the class slides or in the python documentation