Programming

Lesson16 – Memoization

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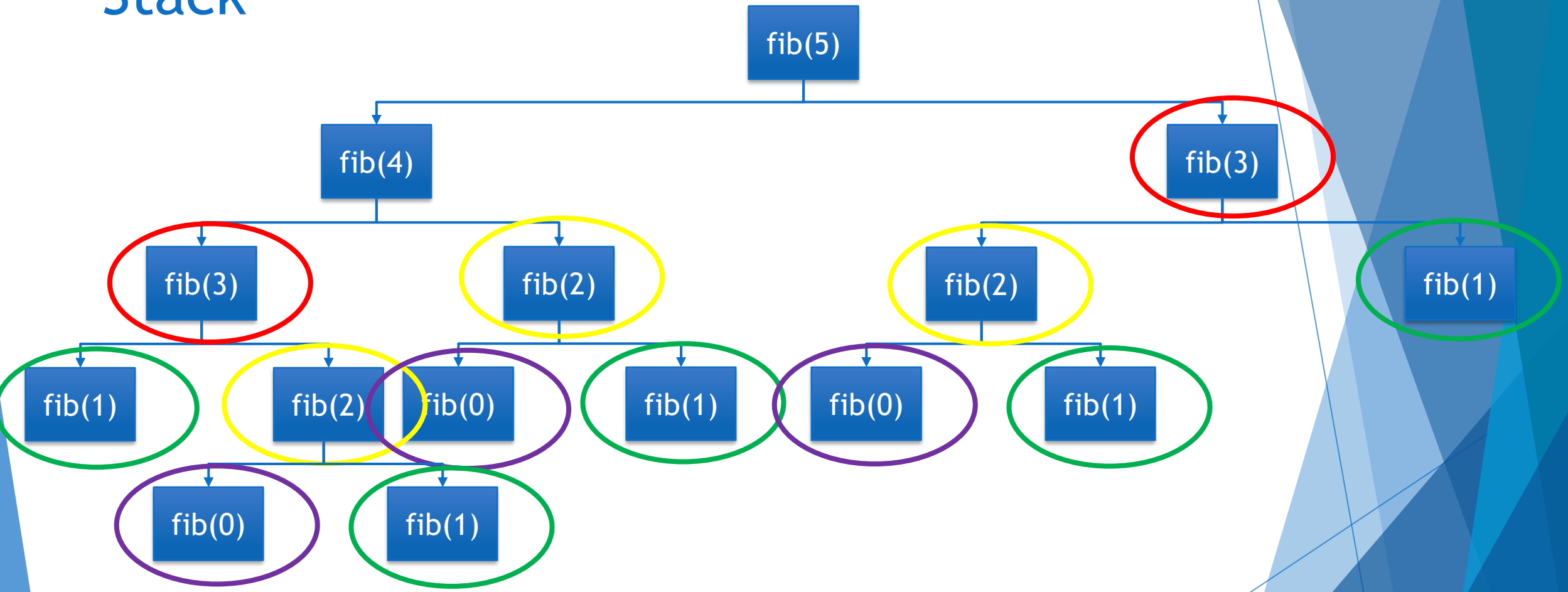
Fibonacci sequence

- 0, 1, 1, 2, 3, 5, 8, 13, 21, 34…

```
def fib(idx):
    if idx == 0:
        return 0
    if idx == 1:
        return 1
    return fib(idx-1) + fib(idx-2)


val = fib(5)
print(val)  # will print 5
```

Stack



- fib(5) ➔ 15 fib call!!
- Repeating similar calls

Memoization

- Store values of recent calls
  So ➔ future calls do **NOT** repeat the work!
- Cache values
- Gain performance

- Fibonacci with memoization explicit implementation
  - *Note: Today, there are built in tools in python do the work.*

Let’s try…☺

- Open PyCharm:
  - Create new file: memoization.py
  - Start coding ☺

Thank you ☺!

Stay tuned for more!