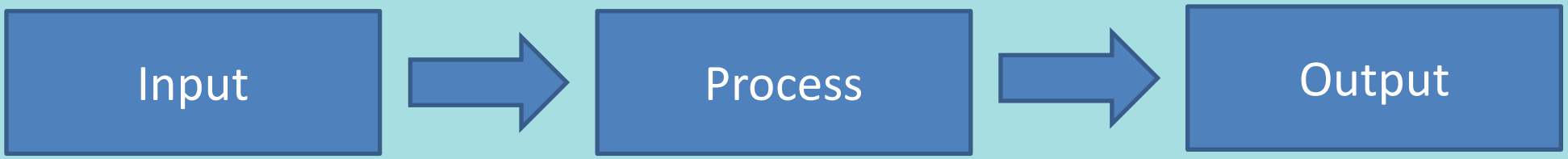
111-1基礎程式設計(11)

亞大資工系

課程大綱

- Week11-進階流程控制
  - Topic 1(主題1)-基本流程複習
  - Topic 2(主題2)-錯誤和例外
  - Topic 3(主題3)-match-case 陳述式
  - Topic 4(主題4)-迭代器(iterator)
  - Topic 5(主題5)-生成器(comprehension)
  - Topic 6(主題6)-原始碼品質控管

IPO Model (W11)



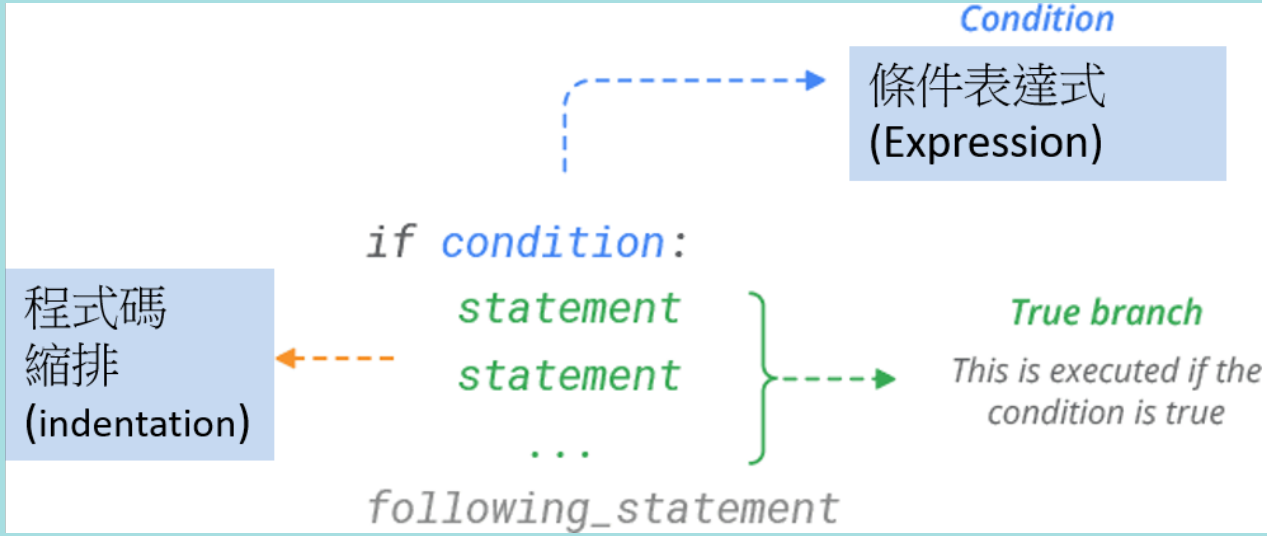
生成器(comprehension)

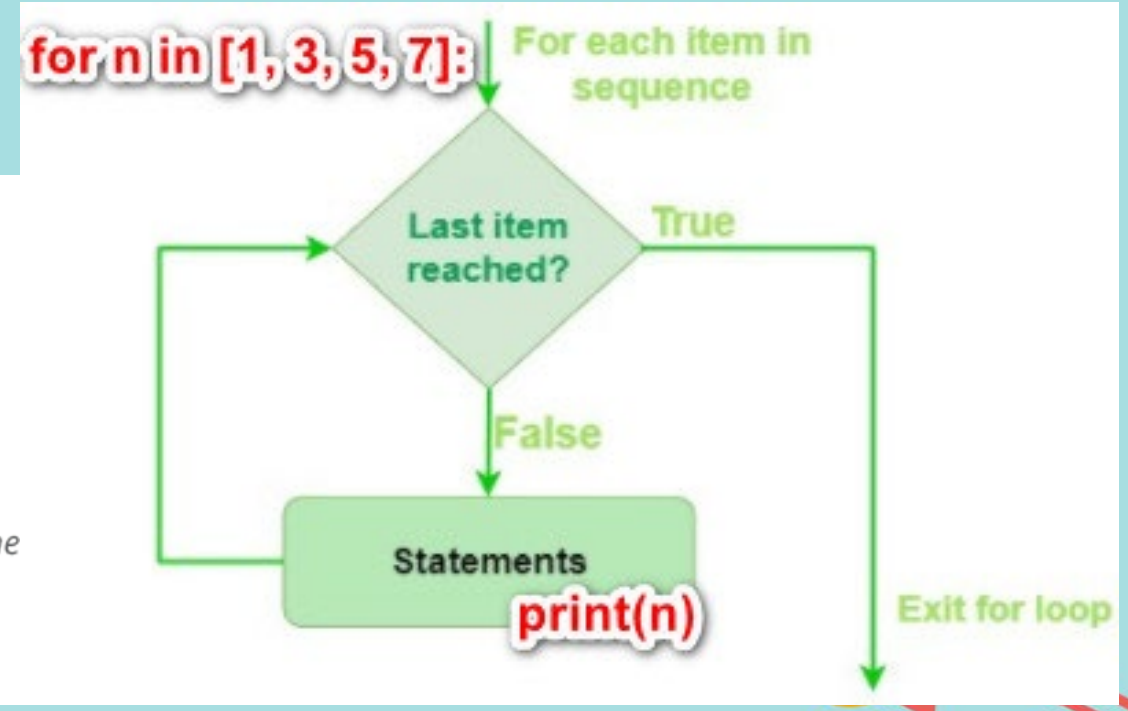
錯誤和例外
迭代器(iterator）

錯誤和例外

Topic 1-基本流程複習

- Step 1: if-condition
- Step 2: for-loop





Topic 2-錯誤和例外

- 例外錯誤處理exception
- 例外錯誤處理Else
- 例外錯誤處理finally

```
try:
  print(x)
except:
  print("Something went wrong")
finally:
  print("The 'try except' is finished")
```

Topic 3- match-case 陳述式

```
match command.split():
    case ["quit"]:
        print("Goodbye!")
        quit_game()
    case ["look"]:
        current_room.describe()
    case ["get", obj]:
        character.get(obj, current_room)
    case ["go", direction]:
        current_room = current_room.neighbor(direction)
    # The rest of your commands go here
```

Topic 4-迭代器

```
for n in [1,2,3,4]:
  print(n**2, end=" ")
```

```
a = iter([1,2,3,4])
while True:
  try:
    n = next(a)
    print(n**2, end=" ")
  except StopIteration:
    break
```

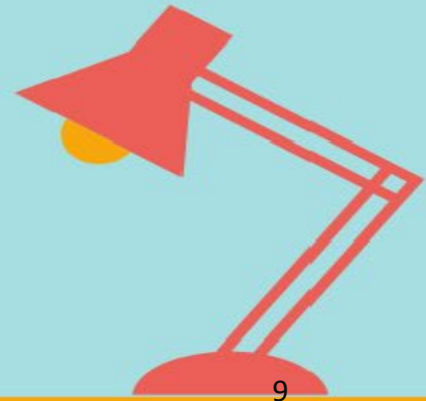
Topic 5-生成器

```
numbers = []
for x in range(10):
    numbers.append(x ** 2)
print(numbers)
```

```
numbers = [x ** 2 for x in range(10)]
print(numbers)
```

Topic 6-原始碼品質控管

- **assert**: 程式中安插除錯用的斷言（assertion）檢查。
- **doctest**: 模組提供了一個工具，掃描模組並根據程式中內嵌的文件字串執行測試。
- **unittest**: 在另外一個檔案裡撰寫更完整的測試集



Thanks!

Q&A