

what does each program print?

①

```
def pow2(n):
    if n == 0:
        return 1
    else:
        return 2 * pow2(n-1)
print(pow2(3))
```

②

```
def get_nums():
    print("A")
    yield 100
    print("B")
    yield 200

for x in get_nums():
    print("hi")
    print(x)
```

③

```
def flip(x):
    return -x

def special_sum(nums, transform):
    total = 0
    for num in nums:
        total += transform(num)
    return total

print(special_sum([-4, 1, -2, 0], flip))
```

④

```
def backwards(items):
    for i in range(len(items)):
        yield items[-i] # careful!

for x in backwards(["A", "B", "C", "D"]):
    print(x)
```

```
5 words = ["AA", "B", "CCC"]
words.sort(key=len)
print(words)
```

```
6 for i in range(5):
    try:
        print(2 / (i-2))
    except:
        print("yikes!")
```

```
nums = []

def append_nums(n):
    nums.append(n)
    if n > 1:
        append_nums(n-1)
    nums.append(n * 100)

append_nums(1)
append_nums(3)
print(nums)
```

```
def hello():
    print("hi")

def goodbye():
    print("bye")

8 def multi_call(n, fn):
    if fn != None:
        for i in range(n):
            fn()

multi_call(2, hello)
multi_call(3, goodbye())
```