Python Programming
Selection Practice 2

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Is even? Print digits

- Read an integer N, then do the following
  - If the number is even: **print** the last digit of it
  - If the number is odd: do the following:
    - If number < 1000, **print** last 2 digits
    - If number >= 1000 and number < 1000000, **print** last 4 digits
    - Otherwise, **print** its negative value
- Stop the video and think: 1) Code   2) Good tests
- Testing examples of good coverage:
  - 234   ⇒ 4
  - 157   ⇒ 57
  - 567169   ⇒ 7169
  - 1000001   ⇒ -1000001

Is even? Print digits

```
2   num = int(input())
3
4   is_even = num % 2 == 0
5
6   if is_even:
7       print(num % 10)
8   else:
9       if num < 1000:
10          print(num % 100)
11      elif num < 1000000:
12          print(num % 10000)
13      else:
14          print(-num)
15
```

- Recall %2 can be used to know if number is even
  - 0 ⇒ even
  - 1 ⇒ odd
- Notice we have if for even, then else for odd
- This else has big body for handling the 3 odd cases

Last 3 digits!

- Read an integer and do the following:
  - If number < 10000, **print** this is a small number
  - Otherwise Sum the last 3 digits of the number
    - If the sum is odd, **print** this is a great number
    - Otherwise, If sum is even:
      - If any digit of the last 3 digits is odd, **print** this is a good number
      - Otherwise, **print** this is a bad number
- Stop the video and think: 1) Code   2) Good tests
  - Be a good tester:
  - Find all needed test cases that covers all possible scenarios

Last 3 digits!

```python
n = int(input())

if n < 10000:
    print("This is a small number")
else:
    digit1 = n%10
    n = n//10
    digit2 = n%10
    n = n//10
    digit3 = n%10          # old value of n lost

    sum = digit1 + digit2 + digit3

    if sum%2 != 0:    # odd
        print("This is a great number")
    else:
        is_digit1_odd = digit1 % 2 != 0
        is_digit2_odd = digit2 % 2 != 0
        is_digit3_odd = digit3 % 2 != 0

        if is_digit1_odd or is_digit2_odd or is_digit3_odd:
            print("This is a good number")
        else:
            print("This is a bad number")
```

- Test cases:
  - 100
  - 10111
  - 10330
  - 10303
  - 10033
  - 10000

"Acquire knowledge and impart it to the people."

"Seek knowledge from the Cradle to the Grave."