Remove all non-even numbers from a sentence

STk>(evens '2 8 3)
(2 8)

STk>(evens '(2 8 3))
(2 8)

Write evens

; Assume you have the predicate even?
(define (even? x)
  (= 0 (remainder x 2)))

A) easy  B) medium  C) hard  D) stuck

evens Solution

(define (evens sent)
  (cond
    ((empty? sent) '())
    ((even? (first sent)) (se (first sent)
      (evens (bf sent))))
    (else '())
    (se(evens (bf sent)))))

odds Solution

(define (odds sent)
  (cond
    ((empty? sent) '())
    (odd? (first sent))
    (se (first sent)
      (odds (bf sent))))
    (else (odds (bf sent))))
**Solution 1**

```scheme
(define (evens sent)
  (cond
    ((empty? sent)'())
    ((even? (first sent))
      (se (first sent)
          (evens (bf sent))))
    (else
      (evens (bf sent))))
)
```

**Solution 2**

```scheme
(define (keep pred? sent)
  (cond
    ((empty? sent)'())
    ((pred? (first sent))
      (se (first sent)
          (keep pred? (bf sent))))
    (else
      (keep pred? (bf sent))))
)
```

**Calling keep**

STk> (keep even? '(2 8 3))
(2 8)

STk> (keep odd? '(1 4 8 5))
(1 5)

STk> (keep pronoun? '(I me you))
(I me you)

STk> (keep even? '(1 3 5 7))
()

STk> (keep (> 5) '(1 3 5 7))

AHHHH! Not a function!!!

**AHHHH! Not a function!!!**
Try it! Make this work!

\texttt{STk> (keep ______________ '(8 3 4 7))}
\texttt{(8 7)}
\texttt{(lambda (x) (> x 5))}

Talk to your partner about why (> 5) doesn’t work!!!
Try to write it without a helper method

A) easy B) medium C) hard D) stuck

\texttt{every}
\texttt{(lambda (x) (> x 5))}

Try it! Define \texttt{s-g-t-100}

\texttt{Squares-greater-than-100}
\texttt{STk> (s-g-t-100 '(2 9 13 16 9 45))}
\texttt{(169 256 2025)}
\texttt{(define (s-g-t-100 sent)}
\texttt{)}
\texttt{(keep}
\texttt{)}
\texttt{(lambda (x) (> x 100))}
\texttt{(every}
\texttt{)}
\texttt{(lambda (y) (* y y))}
\texttt{sent)))}

Using \texttt{lambda} with \texttt{define}

\texttt{(define (cat y)}
\texttt{(lambda (x) (+ x 1)))}
\texttt{(define dog}
\texttt{(lambda (x) (+ x 1)))}

Which of these gives the answer 2?
I \texttt{(cat 1)} A) I&III
II \texttt{((cat 1) 1)} B) II&IV
III \texttt{(dog 1)} C) I&IV
IV \texttt{((dog 1) 1)} D) II&III
E) Not sure

\texttt{Using lambda with define}
\texttt{(define (cat y)}
\texttt{(lambda (x) (+ x 1)))}
\texttt{(define dog}
\texttt{(lambda (x) (+ x 1)))}

\texttt{(lambda (x) (> x 5))}

\texttt{(8 7)}