

QUIZ 5

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1. Fill in the following code! `odd_stream` returns a stream that adds 3 to the previous integer if odd and adds 5 if even.

```
def oddstream(num = 1):
    def compute_rest():

        if num % 2 != 0: / +1 for condition

            return oddstream(num+3) +0.5

        else:

            return oddstream(num+5) +0.5

    return Stream(num, compute_rest) +1 for compute_rest and +1
    for num?
```

2. Define a procedure `partial_sums` that takes as argument a stream `S` and returns the stream whose elements are S_0 , $S_0 + S_1$, $S_0 + S_1 + S_2$, ... For example, `partial_sums(positives)` should be the stream 1, 3, 6, 10, 15, Hint: Recall `map_stream`.

```
def map_stream(fn, s):
    if s is Stream.empty:
        return s
    return Stream(fn(s.first), lambda: map_stream(fn, s.rest))

def partial_sums(s):

    add_first = lambda x: x + s.first

    return Stream(s.first, lambda: stream_map(add_first,
        partial_sums(s.rest)))
```

3. What are the first five elements of the following Stream?

```
def stream():
    return Stream(1, lambda: add_streams(stream(), stream()))
```