Introduction to Cython - Week 2

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Outline

1. Cython as a Module

sum_nums.pyx

sum_nums.pyx

```cython
1  cdef unsigned long long sum_nums(unsigned long n):
2      cdef unsigned long long s = 0
3      cdef unsigned long i
4      for i in range(1, n+1):
5          s += i
6      return s
```

run_sum_nums.py

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```
1  import sum_nums as sn
2
3  print(sn.sum_nums(10))
```

ython

run_sum_nums.py

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1  import sum_nums as sn
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3  print(sn.sum_nums(10))
```

python setup.py build_ext –inplace
python run_sum_nums.py

🐍ython

run_sum_nums.py

```
1  import sum_nums as sn
2
3  print(sn.sum_nums(10))
```

python setup.py build_ext –inplace
python run_sum_nums.py
>> AttributeError: 'module' object has no attribute 'sum_nums'

The Fix

sum_nums.pyx

```
1  def sum_nums_wrapper(n):
2      return sum_nums(int(n))
```

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```
1  def sum_nums_wrapper(n):
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```

run_sum_nums.py

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3  print(sn. sum_nums_wrapper (10))
```

Testing The Fix

python setup.py build_ext –inplace
python rum_sum_nums.py

Testing The Fix

```
python setup.py build_ext --inplace
python rum_sum_nums.py
>> 55
```

The Sugar

sum_nums.pyx

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3      cdef unsigned long i
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6      return s
```

Using The Sugar

ython

run_sum_nums.py

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Using The Sugar

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1  import sum_nums as sn
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3  print(sn.sum_nums(10))
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python setup.py build_ext –inplace
python run_sum_nums.py

ython

Using The Sugar

run_sum_nums.py

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1  import sum_nums as sn
2
3  print(sn.sum_nums(10))
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python setup.py build_ext --inplace
python run_sum_nums.py
>> 55