


Recursive method tracing
Stack based approach to
2009 AP CS A Multiple Choice #13

By: Brandon Horn
apcstutoring.com

There is only 1 recursive call so it is not necessary to track line numbers.
The initial call is `mystery(123456)` which we abbreviate as `m(123456)`.



`m(123456)`

`m(123456)` **calls** `m(12345)`.

`m(12345)`

`m(123456)`

m (1234)

m (12345)

m (123456)

m (123)

m (1234)

m (12345)

m (123456)

m (12)

m (123)

m (1234)

m (12345)

m (123456)

m (1)

m (12)

m (123)

m (1234)

m (12345)

m (123456)

`m(1)` prints 1 then terminates.

Track what is printed separately from the stack.

```
m(1)  
m(12)  
m(123)  
m(1234)  
m(12345)  
m(123456)
```

Printed:
1

m (12) prints 2 then terminates.

Printed:
12

```
m(1)  
m(12)  
m(123)  
m(1234)  
m(12345)  
m(123456)
```

~~m(1)~~

~~m(12)~~

~~m(123)~~

m(1234)

m(12345)

m(123456)

Printed:

123

~~m(1)~~

~~m(12)~~

~~m(123)~~

~~m(1234)~~

m(12345)

m(123456)

Printed:

1234

Printed:
12345

~~m(1)~~

~~m(12)~~

~~m(123)~~

~~m(1234)~~

~~m(12345)~~

m(123456)

Printed:
123456

~~m(1)~~

~~m(12)~~

~~m(123)~~

~~m(1234)~~

~~m(12345)~~

~~m(123456)~~