

Second Largest Element in a List

I/p: l = [10, 5, 20, 8]

O/p: 10

I/p: l = [30, 30, 20]

O/p: 20

I/p: l = [40, 40, 40]

O/p: None

Efficient Solution: (One Traversal)

```
def getSecMax(l):
    if len(l) <= 1:
        return None
    lar = l[0]
    slar = None
    for x in l[1:]:
        if x > lar:
            slar = lar
            lar = x
        elif x != lar:
            if slar == None or slar < x:
                slar = x
    return slar
```

```
l = [int(x) for x in input().split()]
print(getSecMax(l))
```

```
def getMax(l):
    if not l:
        return None
    else:
        res = l[0]
        for i in range(1, len(l)):
            if l[i] > res:
                res = l[i]
        return res
```

```
def getSecMax(l):
    if len(l) <= 1:
        return None
    lar = getMax(l)
    slar = None
    for x in l:
        if x != lar:
            if slar == None:
                slar = x
            else:
                slar = max(x, slar)
    return slar
```

```
l = [int(x) for x in input().split()]
print(getSecMax(l))
```