Ques Power (a, b) ⇒ a^b

⇒ a^b ⇒ $\underbrace{a \times a \times a \times a \ldots\ldots a}_{b\ times}$

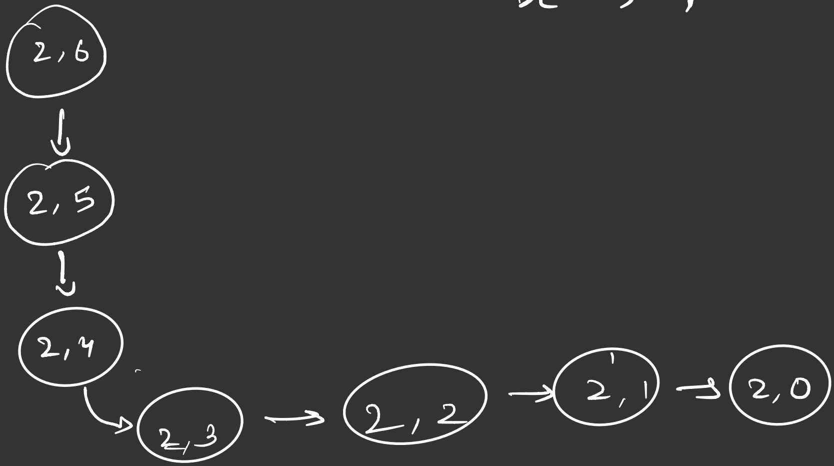
a = 2
b ⇒ 6

Expectation	Faith	Combine

pow(2, 6)
⇒ 64
	pow(2, 5)
	⇒ 32
		int p = pow(2, 5);
		return 2 * p;

```
if(b==0) return 1;
int p = pow(a, b-1);
return p * a;
```

x^0 ⇒ 1



b is even

$2^6 \Rightarrow 2^3 * 2^3$

$2^{100} \Rightarrow 2^{50} * 2^{50}$

b is odd

$2^7 \Rightarrow 2^3 * 2^3 \times 2$

$2^{101} \Rightarrow 2^{50} * 2^{50} * 2$

Expectation

pow(2,6)

=> 64

Faith

pow(2,3)

=> 8

Combine

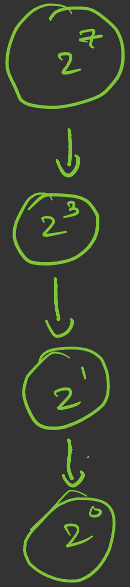
```
p = pow(2,3)
return p*p;
```

pow(2,7)

p(2,3)

```
p = pow(2,3)
if(b%2 ==)
    return p*p*2
```

```
int p = pow(a, b/2);
if(b%2 == 1)
        return p*p*a;
else  return p*p;
```



Recursion with arrays

0	1	2	3	4	5	6
1	7	9	4	3	5	8

⇒

Ques Print all elements

print (arr, int idx)

Expectation

print (arr, 0)

⇒ 1
7
9
4
3
5
8

Faith

print (arr, 1)

7
9
4
3
5
8

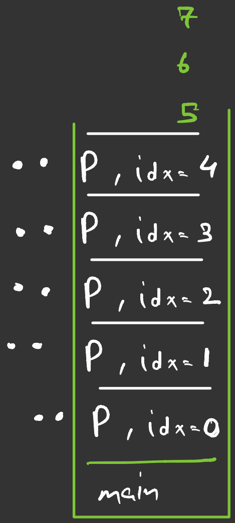
Combine

```
syso(arr[0])
print(arr, 1)
```

0	1	2	3	4	5	6
1	7	9	4	3	5	8

```
print(int arr[], int idx)
    if (idx == arr.length) return;
•   syso (arr[idx]);
..  print(arr, idx+1);
```

1 7 9 4 3



Ques Print in Reverse order

0	1	2	3	4	5	6
1	7	9	4	3	5	8

⇒ 8 5 3 4 9 7 1

PR(arr, idx)

Expectation

PR(arr, 0)

8
5
3
4
9
7
1

Faith

PR(arr, 1)

→

8
5
3
4
9
7

Combine

```
PR(arr, 1);
syso(arr[0]);
```