In-class Question 16

Question)

A Python program has been created to calculate 2 to the power of 9 using a recursive function.

The code is shown below.
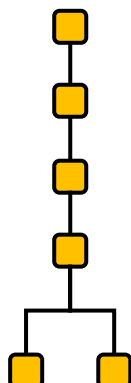
```python
def power(x, y):
    if y == 0:
        return 1
    elif y == 1:
        return x
    else:
        return power(x, int(y / 2)) * \
               power(x, y - int(y / 2))

print(power(2, 9))
```

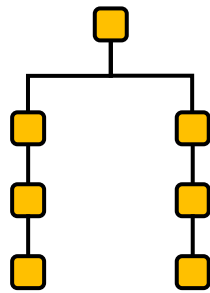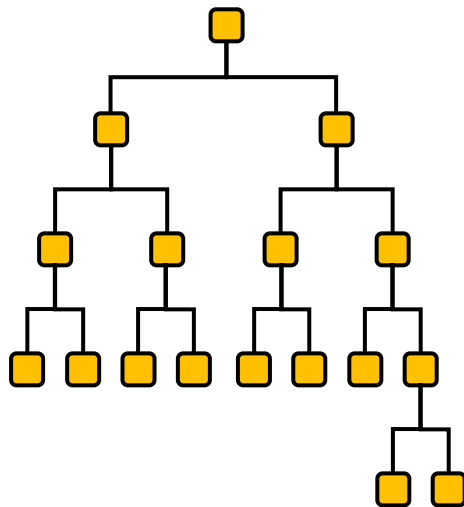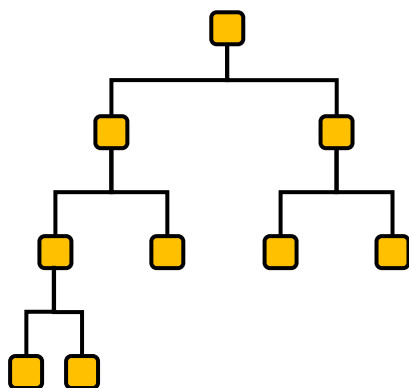Which one of the following recursive diagrams best represents the above program when 2 to the power of 9 is calculated?

A)

B)

C)

D)

E)

For your answer, write one letter from A to E.