Assignment 1

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1 PROBLEM

(Q 48) Consider the following C function.

```
int tob(int b, int *arr){
    int i;
    for (int i = 0; b > 0; i++){
        if(b%2)
            arr[i] = 1;
        else
            arr[i] = 0;
        b = b / 2;
    }

    return (i);
}
```

```
int pp(int a, int b){
int arr[20];
int i, tot = 1, ex, len;
ex = a;

len = tob(b, arr);
for (int i = 0; i < len; i++)
{
    if(arr[i] == 1)
        tot = tot * ex;
    ex = ex * ex;
}

return tot;
}
```

The value returned by

$$pp(3, 4)$$

is ?

2 SOLUTION

$$pp(3, 4) = 81$$

Explanation

tob function stores positive decimal integer to its unsigned binary format given the input array pointer points to sufficiently large length array or it will throw an error. For eg.

$$tob(4) = 100$$

We have

$$a = 3$$

and

$$b = 4$$