

Cody Problem 20. Summing digits

Given n , find the sum of the digits that make up 2^n .

Example:

```
% Input  n = 7
% Output b = 11
```

since $2^7 = 128$, and $1 + 2 + 8 = 11$..

Scratch Pad

```
n = 7
```

```
n = 7
```

```
b = sumDigits(n)
```

```
b = 11
```

```
n = 15
```

```
n = 15
```

```
b = sumDigits(n)
```

```
b = 26
```

Solution

```
function b = sumDigits(n)
    % Convert the number to a string
    strNumber = num2str(2^n);

    % Initialize an array to store the digits
    digits = zeros(1, numel(strNumber));

    % Extract each digit from the string and store it in the array
    for i = 1:numel(strNumber)
        digits(i) = str2double(strNumber(i));
    end

    b = sum(digits);
end
```