PYQs

06 June 2024   09:49

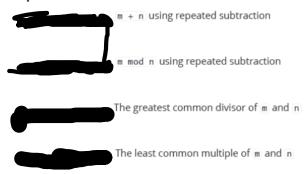1. Sep 22, Quiz 1

Question Label : Multiple Choice Question

```
1   def fun(m,n):
2       if m == n:
3           return n
4       else:
5           if m > n:
6               return fun(m-n, n)
7           else:
8               return fun(m, n-m)
```

What does the function `fun` compute?

Options :

~~`m + n` using repeated subtraction~~

~~`m mod n` using repeated subtraction~~

~~The greatest common divisor of `m` and `n`~~

~~The least common multiple of `m` and `n`~~

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2. Sep 22, Quiz 1

Question Label : Multiple Choice Question

```
1   def prime_bad(n):
2       if n < 2:
3           return False
4       for i in range(2, int(n**0.5)):
5           if n % i == 0:
6               return False
7       return True
```

Here is a function `prime_bad` that takes a positive integer `n` as input and returns `True` if the number is prime and `False` otherwise. There is an error in this function. For which of the following input values of `n`, does function `prime_bad` return an **incorrect** output?

Options :

~~36~~

~~29~~

~~49~~

~~37~~

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3. Jan 23, Quiz 1

Consider the following function:

```python
def fun(n):
    total = 0
    for i in range(n//2,n):
        j = 2
        while(j <= n):
            total = total + n/2
            j = j * 2
    return total
```

Which of the following option correctly mentions the return value (total) of function fun in terms of n ? Consider that input $n = 2^k$ where k is a positive integer.

Options :

~~████████~~ n^2

~~████████~~ $(\log n)^2/4$

~~████████~~ $(n \log n)/2$

6406531561951. ✔ $(n^2 \log n)/4$

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$\log n \quad \dfrac{n}{2}$

$\dfrac{n}{2}$

$n = 32$

$j = 2$