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Week 1 Quiz

Your last recorded submission was on 2021-08-09, 16:56 Due date: 2021-08-18, 23:59 IST. IST

All questions carry equal weightage. All Python code is assumed to be executed using Python3. You may submit as many times as you like within the deadline. Your final submission will be graded.

1) What is the value of `g(728)` for the function below?

```
def g(y):
    b = 0
    while y >= 3:
        (y,b) = (y/3,b+1)
    return(b)
```

5

2.5 points

2) What is `f(90)-f(89)`, given the definition of `f` below?

```
def f(n):
    s = 0
    for i in range(2,n):
        if n%i == 0 and i%2 == 1:
            s = s+1
    return(s)
```

function definitions, sorting

Week 3 Programming Assignment

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5

2.5 points

3) Consider the following function h. ***2.5 points***

```
def h(n):
    s = True
    for i in range(1,n+1):
        if i*i == n:
            s = False
    return(s)
```

The function `h(n)` given above returns `False` for a positive number `n` if and only if:

- ○ `n` is an odd number.
- ○ `n` is a prime number.
- ◉ `n` is a perfect square.
- ○ `n` is a composite number.

4) Consider the following function `fpp`. ***2.5 points***

```
def foo(m):
    if m == 0:
      return(0)
    else:
      return(m+foo(m-1))
```

Which of the following is correct?

- ○ The function always terminates with f(n) = factorial of n
- ○ The function always terminates with f(n) = n(n+1)/2
- ○ The function terminates for nonnegative n with f(n) = factorial of n
- ◉ The function terminates for nonnegative n with f(n) = n(n+1)/2

You may submit any number of times before the due date. The final submission will be considered for grading.

Submit Answers