Week 1 Quiz

The due date for submitting this assignment has passed.

Due on 2020-02-12, 23:59 IST.

As per our records you have not submitted this assignment.

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 `f(4000)` for the function below?

```
def f(x):
    d=0
    while x >= 1:
        (x,d) = (x/5,d+1)
    return(d)
```

No, the answer is incorrect.
Score: 0

Feedback:
The function computes the number of digits required to write x in base 5.

Accepted Answers:
(Type: String) 6

2.5 points

2) What is `h(36)-h(34)`, given the definition of h below?

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

No, the answer is incorrect.
Score: 0

Feedback:
h(n) adds up the factors of n from 2 to n-1. h(36) = 2+3+4+6+9+12+18 = 54 and h(34) = 2+17 = 19, so the difference is 35.

Accepted Answers:
(Type: String) 35

2.5 points

3) For what value of `n` would `g(637,n)` return 4? If there are multiple possibilities, write any one.

```
def g(m,n):
    res = 0
    while m >= n:
        (res,m) = (res+1,m/n)
    return(res)
```

No, the answer is incorrect.
Score: 0

Feedback:
This function computes the log (integer part) of m in base n.

- $4^4=256 \leq 637 < 4^5=1024$
- $5^4=625 \leq 637 < 5^5=3125$

Accepted Answers:
(Type: String) 5
(Type: String) 4

2.5 points

4) Consider the following function `f`: ***2.5 points***

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

Which of the following is correct?

- ○ The function always terminates with mys(n) = factorial of n
- ○ The function always terminates with mys(n) = 1+2+...+n
- ○ The function terminates for positive n with mys(n) = factorial of n
- ○ The function terminates for positive n with mys(n) = 1+2+...+n

No, the answer is incorrect.
Score: 0

Feedback:
The function recursively computes 1+2+..+m provided m ≥ 1. If m ≤ 0, the recursive calls do not terminate.

Accepted Answers:
The function terminates for positive n with mys(n) = 1+2+...+n

Mar 2021, 10:00-12:00 ()

Online Programming Test 2, 09 Mar 2021, 20:00-22:00 ()