You are taking "Final Exam (8 hour time limit)" as a timed exam. Show more

End My Exam 06:04:53

Previous Next

Problem 2

Bookmark this page

Final Exam due Oct 26, 2022 07:30 +08 Completed

Problem 2-1

1/1 point (graded)

You have the following class hierarchy:

```
class A(object):
    def foo(self):
        print('hi')
class B(A):
    def foo(self):
        print('bye')
```

Which of the following is correct?

- (●) When `a = A()` we say that `a` is an instance of `A`
- ( ) When `b = B()` we say that `b` is a subclass of `A`
- ( ) Both of the above
- ( ) Neither of the above

✔

Submit You have used 1 of 1 attempt

Problem 2-2

0/1 point (graded)

Consider the function `f` below. What is its Big O complexity?

```
def f(n):
    def g(m):
        m = 0
        for i in range(m):
            print(m)
    for i in range(n):
        g(n)
```

- ( ) $O(1)$
- ( ) $O(log(n))$
- ( ) $O(n)$
- (●) $O(n^2)$

✖

Submit You have used 1 of 1 attempt

Hide Notes

Problem 2-3

1/1 point (graded)

A dictionary is an immutable object because its keys are immutable.

- ○ True
- ○ False because its keys can be mutable
- ◉ False because a dictionary is mutable

✔

Submit You have used 1 of 1 attempt

Problem 2-4

1/1 point (graded)

Consider the following two functions and select the correct choice below:

```
def foo_one(n):
    """ Assume n is an int >= 0 """
    answer = 1.0
    while n > 1:
        answer *= n
        n -= 1
    return answer

def foo_two(n):
    """ Assume n is an int >= 0 """
    if n <= 1:
        return 1.0
    else:
        return n*foo_two(n-1)
```

- ○ The worst case Big Oh time complexity of `foo_one` is worse than the worst case Big Oh time complexity of `foo_two`.
- ○ The worst case Big Oh time complexity of `foo_two` is worse than the worst case Big Oh time complexity of `foo_one`.
- ◉ The worst case Big Oh time complexity of `foo_one` and `foo_two` are the same.
- ○ Impossible to compare the worst case Big Oh time complexities of the two functions.

✔

Submit You have used 1 of 1 attempt

Problem 2-5

1/1 point (graded)

The complexity of $1^n + n^4 + 4n + 4$ is

- ○ constant

Hide Notes

- logarithmic
- linear
- polynomial
- exponential

Submit You have used 1 of 1 attempt

Previous Next

edX

edX

About
Affiliates
edX for Business
Open edX
Careers
News

Legal

Terms of Service & Honor Code
Privacy Policy
Accessibility Policy
Trademark Policy
Sitemap

Connect

Blog

Hide Notes

Hide Notes