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OLD: Practice Exam 1 (Summer 2024)

This is a preview of the draft version of the quiz

Honorlock Chrome Extension

This assessment requires Google Chrome and the Honorlock Chrome Extension.

Extension Required

Add the Honorlock extension to continue

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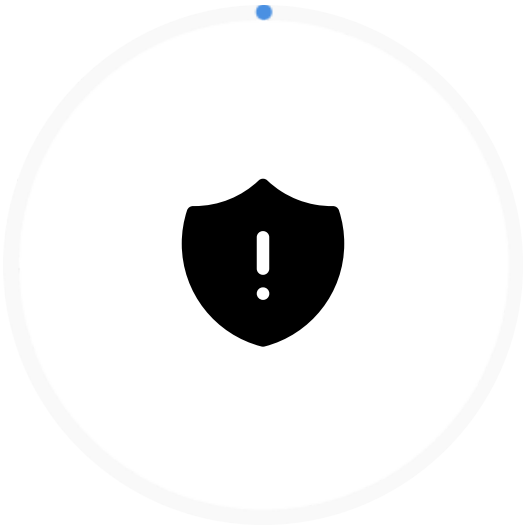
Get Started

Honorlock Chrome Extension

This assessment requires Google Chrome and the Honorlock Chrome Extension.



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Get Started

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Quiz Type	Practice Quiz
Points	17
Shuffle Answers	No
Time Limit	40 Minutes
Multiple Attempts	Yes
Score to Keep	Highest
Attempts	Unlimited
View Responses	Always
Show Correct Answers	After Jul 5 at 9:15pm
One Question at a Time	No

Due	For	Available from	Until
-	Everyone	-	-

Preview

Submitted Oct 8 at 2:29pm

Question 1

1 / 1 pts

Why do we need an interpreter?

Correct!

- (•) Different CPUs have different instruction sets
- ( ) Differet programs have different instruction sets

- It enables us to run multiple processes simultaneously
- It is easy to install

Question 2

1 / 1 pts

What are the main roles of an operating system?

Correct!

- a. Allocate and abstract resources
- b. Convert high level code to machine language
- c. Provide an interface between user and server
- d. Run same code on different devices

Question 3

1 / 1 pts

A team of programmers has developed an application which is currently live on the main branch of the remote repository. All programmers worked on improving the application on their local computers and they made some changes to the code. They subsequently ran the following set of commands and one of them accidentally published the changes. Which of the programmers made the mistake?

Correct!

a.
```
git checkout main
git add main.py
git commit -m “My commit”
git push
```

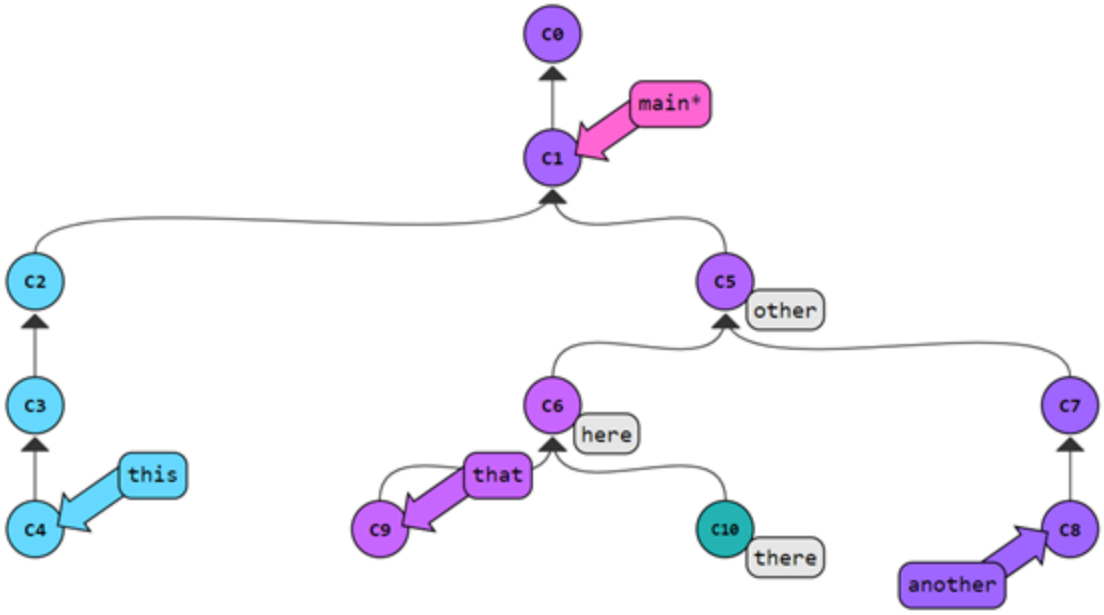
b.
```
git checkout temp
git add main.py
git commit -m “My commit”
git push
```

c.
```
git checkout temp
git add main.py
git commit -m “My commit”
git merge main
git push
```

d.
```
git checkout temp
git add main.py
git commit -m “My commit”
git merge main
```

Question 4

1 / 1 pts



Is C9 a ghost commit and why?

- a. Yes. Because it is not connected to a branch
- b. Yes. Because it does not have subsequent commits
- c. No. Because it has a tag

Correct!

- d. No. Because it is on “that” branch

Question 5

1 / 1 pts

Which of the following is true about git merge

- a. It always completely overwrites the previous version with the new version
- b. The git commit history tree gets an extra edge but not an extra node

Correct!

- c. It creates a new commit
- d. git merge “that” would create a new commit on “that” branch

Question 6

1 / 1 pts

Which of the following is the correct way to use check_output to run git commands from jupyter notebook?

Correct!

- a. check_output(“git checkout main”, shell = True)

b. check_output(“git checkout main”)

c. check_output(“git”, “checkout”, “main”)

d. check_output([“git”, “checkout”, “main”], shell = True)

Question 7

1 / 1 pts

Which of the following inequalities are valid?

a. O(N^2logN) < O(logN)

Correct!

b. O(NlogN) < O(N^2)

c. O(N!) < O(N^3)

d. O(N^2) < O(logN)

Question 8

1 / 1 pts

Let zf be a ZipFile object.

How do we specify the correct mode for extracting text from a file inside it?

a. zf.open(<fname>, mode=”r”)

b. zf.open(<fname>, mode=”rb”)

c. zf.open(<fname>, encoding=”utf-8”)

Correct!

d. This cannot be done and we will always get bytes

Question 9

1 / 1 pts

```
def magic(l):
    for x in l:
        i = x[0] * 4
        j = x[1] - 6
        yield j, i
l = [(3,2), (4,5), (2,9), (9,1)]
f = magic(l)
print(next(f))
print(next(f))
next(f)
print(next(f))
```

What gets printed?

Correct!

- a. (-4, 12) (-1, 16) (-5, 36)
- b. (-4, 12) (-1, 16) (3, 8) (-5, 36)
- c. (-4, 12) (-1, 16) (3, 8)
- d. (-4, 12) (-1, 16) (3, 8) (3, 8)

Question 10

1 / 1 pts

```
class forest:
    def __init__(self, trees):
        self.trees = trees
    def grow(self, leaves):
        for leaf in leaves:
            self.trees.extend(leaf)
    def dry(self, heat):
        for h in range(heat):
            self.trees.pop()

f = forest(["elm", "birch", "maple"])
f.grow(["oak", "spruce"])
f.dry(4)
print(f.trees[5])
```

Which of the following is the correct output of the above code?

- a. spruc
- b. IndexError

Correct!

- c. k
- d. a

Question 11

1 / 1 pts

```
class snake:
    def __init__(self, version):
        self.version = version + 0.1

class Anaconda(snake):
    def __str__(self):
        return f"{type(self).__name__}: What are you doing here?"
```

```
    def code(self):
        self.modules.pop()
        self.modules.pop()

class Python(Anaconda):
    def __init__(self, version, modules):
        super().__init__(version)
        self.modules = modules
    def code(self):
        print("Now writing obfuscated code")
        self.version = self.version + 3

obj = Python(3.6, ["pandas", "numpy", "math", "matplotlib"])
Anaconda.code(obj)
print(obj, obj.modules)
```

What is the output of the above code?

Correct!

- a. Python: What are you doing here? ['pandas', 'numpy']
- b. Anconda: What are you doing here? ['pandas', 'numpy', 'math', 'matplotlib']
- c. Anaconda: What are you doing here? ['pandas', 'numpy']
- d. snake: What are you doing here? ['pandas', 'numpy', 'math', 'matplotlib']

Question 12

1 / 1 pts

```
l = range(m)

for i in l:

    for j in range(100):

        for k in l:

            print("hi")
```

What is the time complexity of the above code?

- a. O(N)

Correct!

- b. O(N^2)
- c. O(N^3)
- d. O(Nlog(N))

Question 13

1 / 1 pts

```
emotions = 0

class riley:
    def __init__(self):
        self.joy = 0
        self.sadness = 1
    def __enter__(self):
        global emotions
        self.sadness += 2
        self.joy += 4
        emotions += self.joy - self.sadness
        print(self.joy + emotions)
    def __exit__(self, a, b, c):
        emotions = 0
        self.joy += 4
        self.sadness -= 3
        emotions += self.joy + self.sadness
        print(emotions - self.sadness)

s = riley()
with s:
    with riley():
        with riley():
            print(emotions)

print(emotions)
```

What is the output of the given code?

Correct!

- a. 5 6 7 3 8 8 8 3
- b. 5 12 21 9 25 49 74 72
- c. 5 6 7 3 11 19 27 27
- d. 5 12 9 5 13 25 43 42

Question 14

1 / 1 pts

What is the value of s.joy + s.sadness after the execution of the code?

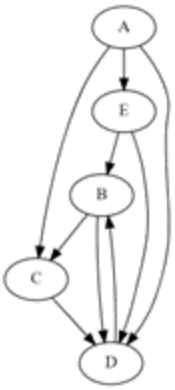
- 0
- 27

Correct!

- 8
- 16

Question 15

1 / 1 pts



In case of ties, nodes are visited in alphabetical order.

What path will a BFS search find from A to B?

(This question is about the path found and *not* the order in which the nodes are visited.)

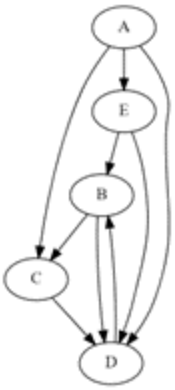
- AEB

Correct!

- ADB
- ACDB
- Error

Question 16

1 / 1 pts



In the case of ties, nodes are visited in alphabetical order.

What path will a DFS search find from A to B?

(This question is about the path found and *not* the order in which the nodes are visited.)

- AEB
- ADB

Correct!

- ACDB
- Error

Question 17

1 / 1 pts

How many statements about trees are true?

A. Nodes can only have 0, 1 or 2 children
B. The time complexity to find a value in binary search tree is always O(log(N))
C. Nodes of trees can have multiple parents
D. All trees are acyclic

- 0

Correct!

- 1

Only D is true

- 2
- 3