

## Operations

1. Assume the following variable declarations have been made, what are the values of each of the following lines of code?

i = 3

j = 10

k = "3"

x = 3.0

y = 2.5

i. j % i

---

ii. k \* i

---

iii. j / i

---

iv. j // x

---

v. x \* y

---

2. Circle any of the following expressions which evaluates to true:

a = 11

b = 30

c = "p"

d = "z"

e = "11"

i. c > d or a > b

ii. d

iii. not (a == b)

iv. d != c and a <= b

v. a != e

3. What prints out after the following lines are executed?

vowels = ["a", "e", "i", "o", "u"]

i. print(vowels[2:])

---

ii. print(vowels[1:4])

---

iii. print(vowels[:])

---

4. Which of the following are good ways to name a function? Circle all that apply.
- i. `multnums()`
  - ii. `add()`
  - iii. `x()`
  - iv. `dividingInts()`
  - v. `FirstMinusSecond()`

Code Problem 1:

Read in a file called `numbers.txt`. This file contains a list of numbers (unsorted), each number on a new line. Find the range and average number without using a list.

## Problem 2

Write a program that simulates rolling two dice. Ask the user if they would like to specify the number of sides the dice have. If they don't want to, assume they want to roll standard 6-sided dice. After rolling the dice, sum them, and write the number to a file called 'results.txt.'

### Problem 3

What is the difference between a while loop and a for loop? Why would you want to use a for loop as opposed to a while loop? Why would you want to use a while loop as opposed to a for loop? Give an example of the a common 'problem' you'd solve with each loop.

#### Problem 4

There are errors in the code below. Try to find them all

1).

```
while True:
```

```
    print("Hello")
```

2).

```
for index in list
```

```
    print(index)
```

3).

```
if myString = "this":
```

```
    myString = "that"
```

4).

```
x = random.range(1, 11, 0)
```

```
print("I have " + x + " apples")
```

Single Line Comment symbol:

Multi Comments: