

Python Terminology, Variables and Expressions

1. Terminology

Underline all of the **comments** and circle all of the **variables** in the program below.

```
import math

angle = math.pi / 4 # 45 degrees
hypotenuse = 120.0

# Remember: sin(theta) = opposite/hypotenuse
opposite = hypotenuse * math.sin(angle)

print("opposite:", opposite)
```

Underline all of the **keywords** and circle all of the **literals** in the program below.

```
import math

angle = math.pi / 4 # 45 degrees
hypotenuse = 120.0

# Remember: sin(theta) = opposite/hypotenuse
opposite = hypotenuse * math.sin(angle)

print("opposite:", opposite)
```

Underline all of the **expressions** and circle all of the **operators** in the program below.

```
import math

angle = math.pi / 4 # 45 degrees
hypotenuse = 120.0

# Remember: sin(theta) = opposite/hypotenuse
opposite = hypotenuse * math.sin(angle)

print("opposite:", opposite)
```

Underline all of the **statements** and circle all of the **functions** in the program below.

```
import math

angle = math.pi / 4 # 45 degrees
hypotenuse = 120.0

# Remember: sin(theta) = opposite/hypotenuse
opposite = hypotenuse * math.sin(angle)

print("opposite:", opposite)
```

2. Each of the following changes to the code above would result in an error. Categorize each as a *syntax error*, *logic error*, or *runtime error*.

- Replacing `math.sin` with `math.cos`
- Changing `hypotenuse` from 120 to 0
- Removing the opening parenthesis after `print`

3. The expression `ord('L')` evaluates to 76.
The expression `chr(76)` evaluates to 'L'.

What do you think will be printed by the following statement? Explain your answer.

```
print(chr(ord('L') + 1))
```