

CSC 330 Principles of Programming Language

Sample Questions

1. Complete the Functions

```
def linear(x, coef):  
    return coef[1] * x + coef[0]
```

```
def quadratic(x, coef):  
    # Complete Here
```

```
def func(f, x, coef):  
    # Complete Here
```

```
def auto_func(coef):  
    # Complete Here
```

```
y = linear(5, [2, 3])  
print(y) # output: 17 (y = 3*5 + 2)  
y = quadratic(3, [2, 5, 7])  
print(y) # output: 80 (y = 7*3^2 + 5*3 + 2)  
y = func(linear, 5, [2, 3])  
print(y) # output: 17  
y = func(quadratic, 3, [2, 5, 7])  
print(y) # output: 80  
y = auto_func([2, 3])(5)  
print(y) # output: 17  
y = auto_func([2, 5, 7])(3)  
print(y) # output: 80
```

2. Complete the Class

```
import math
```

```
class Log:
```

```
    # Write code here:
```

```
a, b = Log(2, 4), Log(2, 4)
```

```
print(a.base, a.of)      # 2 4
```

```
print(b.base, b.of)      # 2 4
```

```
print(str(a))            # Log_2(4)
```

```
print(a)                  # Log_2(4)
```

```
print(b)                  # Log_2(4)
```

```
print(repr(a))            # Log(2, 4)
```

```
print(a == b)             # True
```

```
print(a * 3)              # Log_2(64)
```

```
print(3 * a)              # Log_2(64)
```

```
print(hash(a), hash(b))   # 3516302870623680066 3516302870623680066
```

```
print(float(a), float(b)) # 2.0 2.0
```

```
print(-a)                 # Log_2(0.25)
```