

CS2211 – Lab 11 by Rohin

1. Single-line Comments

```
grep -E '^(\\s*#|//)' log3.py log3.c | grep -vE '\\s*(#include|#define)'
```

```
~/GitHub/cs2211/lab11 main* 01:19:47 >
grep -E '^(\\s*#|//)' log3.py log3.c | grep -vE '\\s*(include|define)'
log3.py:# this is a python comment
log3.c:# include <stdio.h>
log3.c:#include <stdbool.h>
log3.c:#include <math.h>
log3.c:#include <limits.h>
log3.c:#include "utils.h"
log3.c:#define MAX 20000
```

2. Imports

```
grep -E '\\s*(import|#include\\s*<)' log3.py log3.c
```

```
~/GitHub/cs2211/lab11 main* 01:22:06 >
grep -E '\\s*(import|#include\\s*<)' log3.py log3.c
log3.py:import math
log3.c:#include <stdbool.h>
log3.c:#include <math.h>
log3.c:#include <limits.h>
```

3. If's

```
grep -E '\\bif\\b' log3.py log3.c
```

```
grep -E '\\bif\\b' log3.py log3.c
log3.py:if N==1:
log3.py:if powers_of_three[-1] == N:
log3.c: if (N <= 0) return -1; // Logarithm undefined for non-positive numbers
log3.c: // Check if result is close to an integer to determine if N is a power of 3
log3.c: if (fabs(result - round(result)) < 1e-10) { // tolerance to handle floating-point precision
log3.c: if (N < 1) {
log3.c: if (powers[last] == N) printf("%d\\n", log_base_3(N));
```

4. Assignments, but not Relational

```
grep -E '[^=<>]=([^=]|$)' log3.py log3.c
```

```
grep -E '[^=<>]=([^=]|$)' log3.py log3.c  
  
log3.py:N = int(input())  
log3.py:found = True  
log3.py:powers_of_three = [3]  
log3.c:    double result = log(N) / log(3);  
log3.c:    int last = 0;  
log3.c:    powers[last] = 1;  
log3.c:    powers[last+1] = powers[last] * 3;  
log3.c:    N/=powers[last];
```

5. Variable Declars

```
grep -E '\b(int|double|long\s+long)\b.*;' log3.c
```

```
grep -E '\b(int|double|long\s+long)\b.*;' log3.c  
  
    double result = log(N) / log(3);  
    return (int)round(result);  
    long long N;  
    long long powers[MAX+1];  
    int last = 0;
```