

## QUIZ 2

### COMP9021 PRINCIPLES OF PROGRAMMING

```
$ python3 quiz_2.py
```

```
Enter three strictly positive integers: 1 1 1
```

```
Here is L:
```

```
[1]
```

```
The size of the simplest fraction  $\leq 1$  built from members of L is: 2
```

```
From smallest to largest, those simplest fractions are:
```

```
1/1
```

```
The size of the most complex fraction  $\leq 1$  built from members of L is: 2
```

```
From largest to smallest, those most complex fractions are:
```

```
1/1
```

```
The highest multiplicity of prime factors of the latter's denominators is: 0
```

```
These prime factors of highest multiplicity are, from smallest to largest:
```

```
[]
```

```
$ python3 quiz_2.py
```

```
Enter three strictly positive integers: 1 10 10
```

```
Here is L:
```

```
[3, 10, 2, 5, 2, 8, 8, 8, 7, 4]
```

```
The size of the simplest fraction  $\leq 1$  built from members of L is: 2
```

```
From smallest to largest, those simplest fractions are:
```

```
1/5
```

```
1/4
```

```
2/7
```

```
3/8
```

```
2/5
```

```
3/7
```

```
1/2
```

```
4/7
```

```
3/5
```

```
5/8
```

```
2/3
```

```
5/7
```

```
3/4
```

```
4/5
```

```
7/8
```

```
1/1
```

```
The size of the most complex fraction  $\leq 1$  built from members of L is: 3
```

```
From largest to smallest, those most complex fractions are:
```

```
7/10
```

```
3/10
```

```
The highest multiplicity of prime factors of the latter's denominators is: 1
```

```
These prime factors of highest multiplicity are, from smallest to largest:
```

```
[2, 5]
```

```
$ python3 quiz_2.py
Enter three strictly positive integers: 1 5 1000
Here is L:
[138, 583, 868, 822, 783]
```

The size of the simplest fraction  $\leq 1$  built from members of L is: 2  
From smallest to largest, those simplest fractions are:

1/1

The size of the most complex fraction  $\leq 1$  built from members of L is: 6  
From largest to smallest, those most complex fractions are:

261/274

411/434

783/868

583/783

583/822

583/868

138/583

The highest multiplicity of prime factors of the latter's denominators is: 3  
These prime factors of highest multiplicity are, from smallest to largest:  
[3]

```
$ python3 quiz_2.py
Enter three strictly positive integers: 1 10 200
Here is L:
[35, 146, 196, 17, 66, 31, 127, 195, 116, 121]
```

The size of the simplest fraction  $\leq 1$  built from members of L is: 2  
From smallest to largest, those simplest fractions are:

1/1

The size of the most complex fraction  $\leq 1$  built from members of L is: 6  
From largest to smallest, those most complex fractions are:

195/196

116/121

121/127

116/127

127/146

121/146

146/195

127/195

127/196

121/195

121/196

116/195

The highest multiplicity of prime factors of the latter's denominators is: 2  
These prime factors of highest multiplicity are, from smallest to largest:  
[2, 7, 11]

```
$ python3 quiz_2.py
Enter three strictly positive integers: 1 15 15
Here is L:
[3, 10, 14, 13, 13, 2, 5, 2, 8, 13, 8, 8, 11, 7, 13]
```

The size of the simplest fraction  $\leq 1$  built from members of L is: 2  
 From smallest to largest, those simplest fractions are:

```
1/7
1/5
1/4
2/7
3/8
2/5
3/7
1/2
4/7
3/5
5/8
2/3
5/7
4/5
7/8
1/1
```

The size of the most complex fraction  $\leq 1$  built from members of L is: 4  
 From largest to smallest, those most complex fractions are:

```
13/14
10/11
11/13
11/14
10/13
```

The highest multiplicity of prime factors of the latter's denominators is: 1  
 These prime factors of highest multiplicity are, from smallest to largest:

```
[2, 7, 11, 13]
```

```
$ python3 quiz_2.py
Enter three strictly positive integers: 1 6 50
Here is L:
[9, 37, 49, 5, 17, 8]
```

The size of the simplest fraction  $\leq 1$  built from members of L is: 2  
 From smallest to largest, those simplest fractions are:

```
5/9
5/8
8/9
1/1
```

The size of the most complex fraction  $\leq 1$  built from members of L is: 4  
 From largest to smallest, those most complex fractions are:

```
37/49
17/37
17/49
```

The highest multiplicity of prime factors of the latter's denominators is: 2  
 These prime factors of highest multiplicity are, from smallest to largest:

```
[7]
```