*Python Set Basics Study Sheet Last Update 7 Sep ‘23*

*Set Element properties:*

unordered, unindexed, unique values only, immutable

Make an empty set: S1 = set() / S1 = {} *won’t* work - empty dict!

Make a populated set: S1 = {3, 5, 7}

Make a set from other iter: S1 = set(iter)

*Set operations that return sets*

logical or .union(s2, s3...) s1 | s2 | ...

logical and .intersection(s2, s3, ...) s1 & s2 & ...

difference .difference(s2, s3, ...) s1 – s2 – s3 ...

logical xor .symmetric\_difference(s2) s1 ^ s2 ^ s3 ...

(only accepts one arg) (multiple sets okay)

*Set operations that checks (and returns bools), from S1’s pov:*

... if s1 and s2’s intersection is empty .isdisjoint(s2)

... if every element of s1 is in s2 .issubset(s2) s1 <= s2

... if s1 is a proper subset of s2 s1 < s2

... if every element of s2 is in s1 .issuperset(s2) s1 >= s2

... if s2 is a proper subset of s1 s1 > s2

*given S1 = {1, 2, 3, 6}, write code for each of the following:*

add 5: S1.add(5)

add nonduplicate elements from my\_list: S1.update(my\_list)

remove 3: S1.remove(3)

remove 7: will cause error!

remove 7 but not create error: S1.discard(7)

clears all entries S1.clear()