Python Programming

Selection Homework 3

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Teaching, Training and Coaching since more than a decade!

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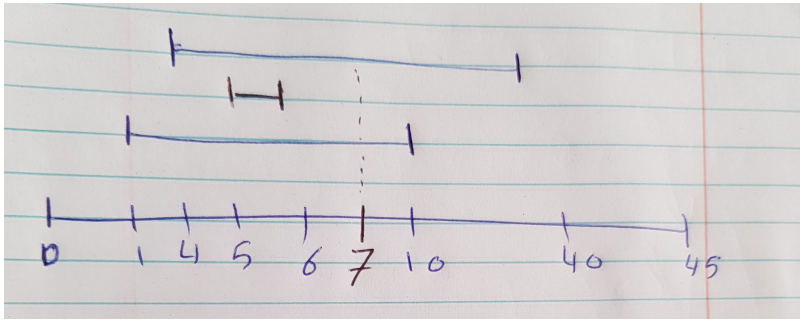
Homework 1: Intervals

- Read an integer X then read 6 integers s1, e1, s2, e2, s3, e3
  - These 6 numbers are for 3 interval
  - Each Interval is a range [start, end]
  - Number X in a range if **start** <= X <= **end**
  - E.g 7 in range [5, 12] but not in range [10, 20]
- Print how many intervals that X is part of
- Inputs
  - 7 1 10 5 6 4 40 ⇒ 2
    - Number 7 exists in 2 intervals [1, 10] and [4, 40]
  - 10 5 15 6 100 3 30 ⇒ 3
    - 10 exists in the 3 intervals [5 15], [6 100], [3 30]
  - 10 100 200 100 101 120 170 ⇒ 0 [doesn't exist in any interval]



Homework 2: Two Intervals Intersection

- Read 4 integers representing 2 intervals and print their intersection interval. If they don’t intersect, print -1
- Inputs
  - 1 6 3 8 ⇒ 3 6
    - Interval [1 6] and [3 8] only intersects at [3, 6]
    - Why: interval [1, 6] has numbers: {1, 2, **3, 4, 5, 6**}
    - And: interval [3, 8] has numbers: {**3, 4, 5, 6**, 7, 8}
    - So the intersection is {**3, 4, 5, 6**} = [3, 6]
  - 1 15 20 30 ⇒ -1

"Acquire knowledge and impart it to the people."

"Seek knowledge from the Cradle to the Grave."