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Intro to Java

Homework 2

R5.1

k was not less than n. Therefore:

n = 1, k = 2, and r = 1

n was indeed less than k. Therefore:

n = 1, k = 2, r = 2

r was not less than k. Therefore:

n = 1, k = 1, r = 2

r was not less than n + k. Therefore:

n = 1, k = 6, r = 3

R5.12

Tracing the algorithm with an appointment of 10-12 and one from 11-13:

start1 = 10, start2 = 11

end1 = 12, end2 = 13

First if statement:

start1 is not greater than start2, so s = start2 is executed.

s = 11

Second if statement:

end1 is indeed less than end2, therefore e = end1 is executed.

e = 12

Third if statement:

s is indeed less than e.

Therefore, the appointments overlap.

Tracing the algorithm with an appointment of 10-11 and one from 12-13.

start1 = 10, start2 = 12

end1 = 11, end2 = 13

First if statement:

start1 is not greater than start2, so s = start2 is executed.

s = 12

Second if statement:

end1 is indeed less than end2, so e = end1 is executed.

e = 11

Third if statement:

s is not less than e.

Therefore, the appointments do not overlap.

R5.16

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| --- | --- | --- |
| Tracing Algorithm with 6-8 and 4-9 | | |
| *Condition* | *True/False* | *Value* |
| If start1 > start2 | True | s = start1 = 6 |
| If end1 < end2 | True | e = end1 = 8 |
| If s < e | True | Appointments Overlap |

|  |  |  |
| --- | --- | --- |
| Tracing Algorithm with 8-12 and 5-10 | | |
| *Condition* | *True/False* | *Value* |
| If start1 > start2 | True | s = start1 = 6 |
| If end1 < end2 | False | e = end2 = 10 |
| If s < e | True | Appointments Overlap |

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| --- | --- | --- |
| Tracing Algorithm with 3-16 and 5-12 | | |
| *Condition* | *True/False* | *Value* |
| If start1 > start2 | False | s = start2 = 5 |
| If end1 < end2 | False | e = end2 = 12 |
| If s < e | True | Appointments Overlap |

|  |  |  |
| --- | --- | --- |
| Tracing Algorithm with 6-10 and 11-12 | | |
| *Condition* | *True/False* | *Value* |
| If start1 > start2 | False | s = start2 = 11 |
| If end1 < end2 | True | e = end1 = 10 |
| If s < e | False | Appointments do not overlap |