

## Section

Program

Write the structural abstraction of the program.

```

0  x = read()
1  y = 1
2  z = x + y
3  # end

```

Locations (overall)

Missing / Wrong: 0

Partially correct: 1/2

Correct: 1

Terminology (per line)

Wrong / not attempted: 0

Partially correct: 1/2

Correct: 1

Indentation (overall)

Wrong / not indented: 0

Partially correct: 1/2

Correct: 1

Fill in the table of Control Transfer Functions with the appropriate locations for the program.

i	next	true	false	call	return	error
0						
1						
2						
3						

Per cell

Correctly filled cell: 1

Wrongly filled cell: -1

Anything else / missed a cell: 0

Draw the Control Flow Graph (CFG) for the program. To reduce clutter, don't draw the Error edges.

Per arrow

Correct arrow and label : 1

Otherwise : 0 (missed an arrow)

Wrong arrow and/or label : -1

Trace the structurally feasible executions of the program.

Non error executions (per exe)

Correct : 1

Wrong / not attempted : 0

Error executions (overall)

Correct : 1

Wrong / not attempted : 0

Note about mult/infinite iterations :

Mentioned the phrase "multiple iterations" : 1

Anything else : 0

Trace the logically feasible executions of the program.

Per case (condition) :

Correct case : 1

Partially correct case : 1/2

Wrong case / not attempted : 0

Per execution

Correct : 1

Wrong : 0

---

Trace the actual execution of the program for the input  $x = 2$ .

Per arrow :

Correct arrow & label : 1

Otherwise : 0

Wrong arrow and/or label : -1

Note: in case of ~~iterate~~ visual looping in the trace, give marks <sub>for all iterations</sub> if they mention how many iterations occur. Otherwise give marks only for one iteration.