GIF

$$\{P \wedge E_1\}S_1\{Q\}, \{P \wedge E_2\}S_2\{Q\}, \dots, \{P \wedge E_n\}S_n\{Q\}\}$$

 $\{P\} \ gif \ E_1 \to S_1 \ E_2 \to S_2 \ \dots \ E_n \to S_n \ end\{Q\}$

Part b

Part a

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\frac{\overline{\{z < 0 \land x \leq 0\}y := -x\{z < 0 \land y \geq 0\}}^{ASSIGN}}{\{z < 0 \land x > -5 \land x \leq 0\}y := -x\{z < 0 \land y \geq 0\}}CONS, \frac{\overline{\{z < 0 \land x \geq 0\}y := x \{z < 0 \land y \geq 0\}}^{ASSIGN}}{\{z < 0 \land x > -5 \land x \geq 0\}y := x \{z < 0 \land y \geq 0\}}CONS}{\{z < 0 \land x > -5\}gif \ x \leq 0 \rightarrow y := -x[]x \geq 0 \rightarrow y := x \ end\{z < 0 \land y \geq 0\}}GIF \frac{\overline{\{z - y < 0\} \ z := z - y \ \{z < 0\}}^{ASSIGN}}{\{z < 0 \land y \geq 0\} \ z := z - y \ \{z < 0\}}CONS}{\{z < 0 \land x > -5\}gif \ x \leq 0 \rightarrow y := x \ end\{z < 0 \land y \geq 0\}}
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$$-5 \operatorname{fil} x \le 0 \to y := -x | x \ge 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := -x | x \ge 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \le 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \to 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \to 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \to 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \to 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \to 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \to 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \to 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \to 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \to 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \to 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{gif} x \to 0 \to y := x \operatorname{ent} \{z < 0 \land x > -5\} \operatorname{ent} x \to 0 \to y := x \operatorname{ent} x$$

 $\{z < 0\}$ while x > -5 do gif $x < 0 \to y := -x | x > 0 \to y := x$ and z := z - y and z < 0 > 0 = 0

 $\{z < 0 \land x > -5\} \ gif \ x \le 0 \to y := -x[x \ge 0 \to y := x \ end \ z := z - y \ \{z < 0\}\}$

 $\underbrace{\{z<0\}}{while \ x>-5 \ do \ gif \ x\leq 0 \rightarrow y:=-x[]x\geq 0 \rightarrow y:=x \ end \ z:=z-y \ end \ \{z<0 \land \neg(x>-5)\}}WHILE$

-CONSEQ