Quiz answers

- **1.**  $\forall A.A \lor \neg A$  is a tautology
- **2.**  $\forall A.A \land \neg A$  is not a tautology

## Answer 1.1 [Coding Example]

\_\_/3 Points

```
def main():
    print("Hello world")

if __name__ == "__main__":
    main()
```

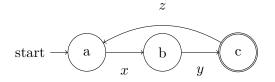
## Answer 1.2

An answer does not need to have points or even a title.

## Answer 1.3 [Example with subanswers]

\_\_/7 Points

a)



b)

## Algorithm 1: Double

**Data:** Natural number n

**Result:** Double the number n

- 1  $m \leftarrow n$ ;
- 2 while m > 0 do
- $\mathbf{3} \quad m \leftarrow m-1;$
- 4  $n \leftarrow n+1$ ;
- 5 return n;

**Special)** The label in the subanswer can be overwritten.

c) And counting skips that subanswer

Answer 1.4 [Math example]

\_\_/4 Points

Double(n) = ADD(n, n)  
= ADD(n + 1, n - 1)  
= ...  
= ADD(n + n, 0)  
= n + n  
= 
$$2 \cdot n$$

Supplement answer [Extra]

\_\_/10 Points

$$\frac{\overline{x:\alpha,y:\alpha,z:\beta\vdash y:\alpha}}{\frac{x:\alpha,y:\alpha\vdash\lambda z.y:\beta\rightarrow\alpha}{x:\alpha\vdash\lambda y\,z.y:\alpha\beta\rightarrow\alpha}} \frac{x:\alpha\vdash\lambda x.y:\alpha}{x:\alpha\vdash\lambda x.\alpha}$$

$$\frac{x:\alpha\vdash(\lambda y\,z.y)\,x:\beta\rightarrow\alpha}{\vdash\lambda x.(\lambda y\,z.y)\,x:\alpha\rightarrow\beta\rightarrow\alpha}$$