

# CS 61A Summer 2017

# Structure and Interpretation of Computer Programs

QUIZ 2 SOLUTIONS

## INSTRUCTIONS

- You have 10 minutes to complete this quiz.
- The exam is closed book, closed notes, closed computer, closed calculator.
- The final score for this quiz will be assigned based on **effort** rather than correctness.
- Mark your answers **on the exam itself**. We will *not* grade answers written on scratch paper.
- For multiple choice questions,
  - means mark **all options** that apply
  - means mark a **single choice**

Last name	
First name	
Student ID number	
CalCentral email (_@berkeley.edu)	
Teaching Assistant	<input type="radio"/> Alex Stennet <input type="radio"/> Kelly Chen <input type="radio"/> Angela Kwon <input type="radio"/> Michael Gibbes <input type="radio"/> Ashley Chien <input type="radio"/> Michelle Hwang <input type="radio"/> Joyce Luong <input type="radio"/> Mitas Ray <input type="radio"/> Karthik Bharathala <input type="radio"/> Rocky Duan <input type="radio"/> Kavi Gupta <input type="radio"/> Samantha Wong
Name of the person to your left	
Name of the person to your right	
<i>All the work on this exam is my own.</i> <b>(please sign)</b>	

1. (5 points) **Yes, No, and Sometimes Maybe**

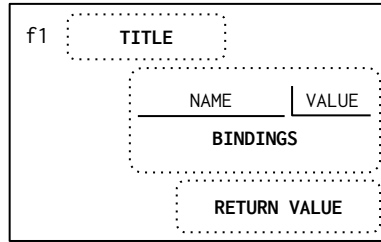
- (a) On the next page, fill in the environment diagram that results from executing the code below until the entire program is finished, an error occurs, or all frames are filled.

*You may not need to use all of the spaces or frames.*

- (b) Then, for each region below, fill in the corresponding bubble or the bubble in the column marked, “Blank”, if the space in the environment diagram should be left blank.

*To receive credit, you must list your bindings in the order in which they are first bound in the frame.*

An example of each region in a frame is shown below. The first few choices have been filled in as an example.



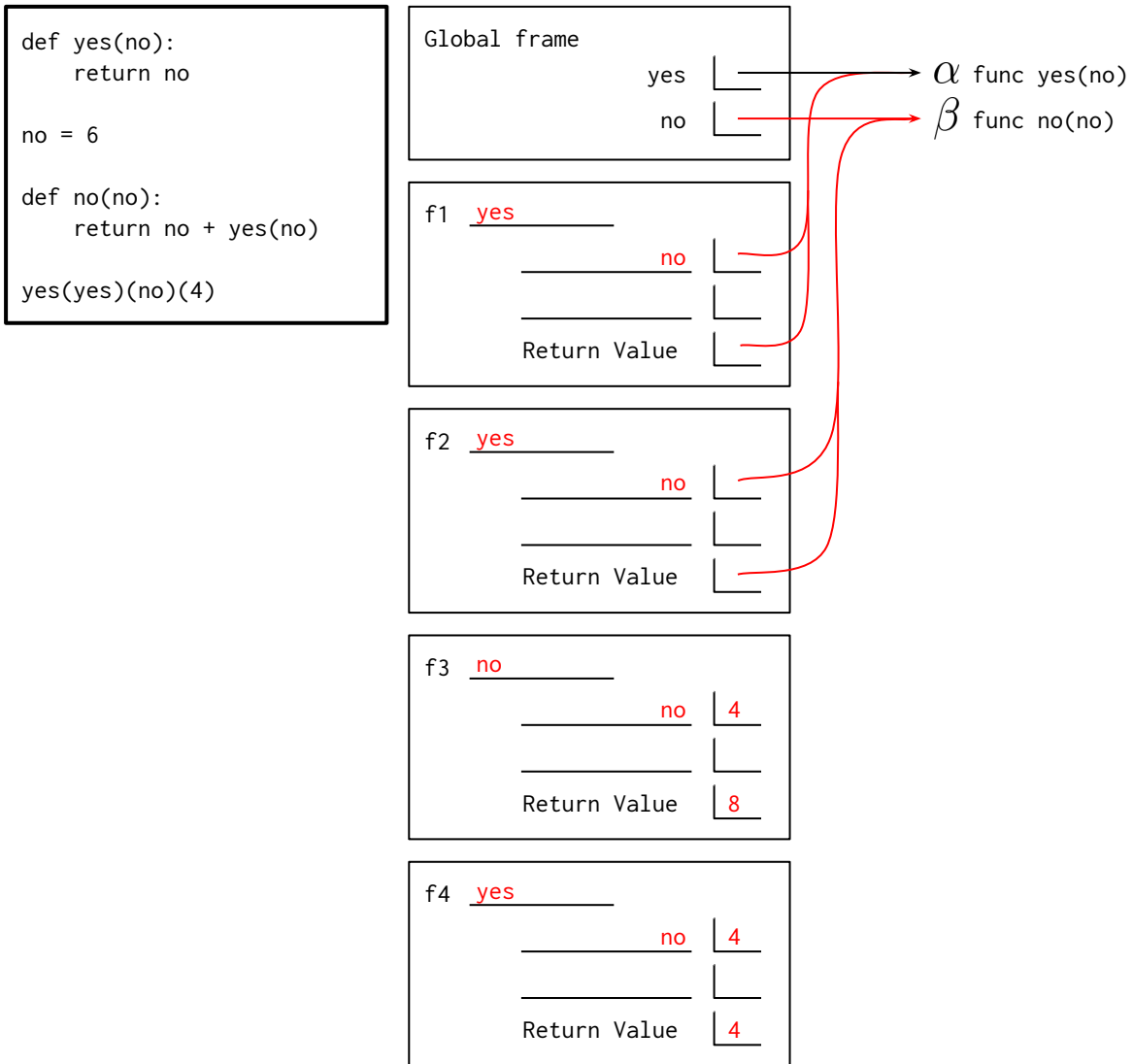
FRAME	FIELD	Blank	NAMES	VALUES
Global	Binding 1	<input type="radio"/>	<input checked="" type="radio"/> yes <input type="radio"/> no	<input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input checked="" type="radio"/> $\alpha$ <input type="radio"/> $\beta$
	Binding 2	<input type="radio"/>	<input type="radio"/> yes <input checked="" type="radio"/> no	<input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input type="radio"/> $\alpha$ <input checked="" type="radio"/> $\beta$
f1	Title	<input type="radio"/>	<input checked="" type="radio"/> yes <input type="radio"/> no	
	Binding 1	<input type="radio"/>	<input type="radio"/> yes <input checked="" type="radio"/> no	<input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input checked="" type="radio"/> $\alpha$ <input type="radio"/> $\beta$
	Binding 2	<input checked="" type="radio"/>	<input type="radio"/> yes <input type="radio"/> no	<input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input type="radio"/> $\alpha$ <input type="radio"/> $\beta$
	Return	<input type="radio"/>		<input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input checked="" type="radio"/> $\alpha$ <input type="radio"/> $\beta$
f2	Title	<input type="radio"/>	<input checked="" type="radio"/> yes <input type="radio"/> no	
	Binding 1	<input type="radio"/>	<input type="radio"/> yes <input checked="" type="radio"/> no	<input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input type="radio"/> $\alpha$ <input checked="" type="radio"/> $\beta$
	Binding 2	<input checked="" type="radio"/>	<input type="radio"/> yes <input type="radio"/> no	<input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input type="radio"/> $\alpha$ <input type="radio"/> $\beta$
	Return	<input type="radio"/>		<input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input type="radio"/> $\alpha$ <input checked="" type="radio"/> $\beta$
f3	Title	<input type="radio"/>	<input type="radio"/> yes <input checked="" type="radio"/> no	
	Binding 1	<input type="radio"/>	<input type="radio"/> yes <input checked="" type="radio"/> no	<input checked="" type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input type="radio"/> $\alpha$ <input type="radio"/> $\beta$
	Binding 2	<input checked="" type="radio"/>	<input type="radio"/> yes <input type="radio"/> no	<input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input type="radio"/> $\alpha$ <input type="radio"/> $\beta$
	Return	<input type="radio"/>		<input type="radio"/> 4 <input type="radio"/> 6 <input checked="" type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input type="radio"/> $\alpha$ <input type="radio"/> $\beta$
f4	Title	<input type="radio"/>	<input checked="" type="radio"/> yes <input type="radio"/> no	
	Binding 1	<input type="radio"/>	<input type="radio"/> yes <input checked="" type="radio"/> no	<input checked="" type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input type="radio"/> $\alpha$ <input type="radio"/> $\beta$
	Binding 2	<input checked="" type="radio"/>	<input type="radio"/> yes <input type="radio"/> no	<input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input type="radio"/> $\alpha$ <input type="radio"/> $\beta$
	Return	<input type="radio"/>		<input checked="" type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> 10 <input type="radio"/> 12 <input type="radio"/> $\alpha$ <input type="radio"/> $\beta$

**DO NOT TURN IN THIS PAGE.**

**Remember to fill out the choices on the previous page to receive credit for this quiz.**

A complete answer will:

- Add all missing names to all local frames.
- Add all missing values created or referenced during execution.
- Show the return value for each local frame.



**DO NOT TURN IN THIS PAGE.**