

Quiz 9: Actors and Message Passing

EN.601.426/626 Principles of Programming Languages – SP26

Name: _____

Let's look at the following AFbV code.

```
Let a_behavior = Fun me -> Fun _ ->
  (Fun msg ->                                     (* a_behavior_1 *)
    (Print msg);
    (me <- "is 42\n");
    (Fun msg2 ->                                   (* a_behavior_2 *)
      (Print msg2);
      Fun x -> x))                                (* id *)
In
Let a = Create(a_behavior, _) In
Let b_behavior = Fun me -> Fun _ ->
  (Fun msg ->                                     (* b_behavior *)
    (Print msg); a <- "the secret\n";
    Fun x -> x)                                   (* id *)
In
Let b = Create(b_behavior, _) In
b <- "hello world\n"
```

What are the printed lines from executing the above code?

From the initial execution of the above code, there are going to be 4 distinct global states, G_1 , G_2 , G_3 , and G_4 . Please write down the content of these states. You can use a_beh_1 , a_beh_2 , b_beh , and id to represent the behaviors of message handlers.

$$G_1 \rightarrow G_2 \rightarrow G_3 \rightarrow G_4$$

$G_1 = \{$	$\}$
$G_2 = \{$	$\}$
$G_3 = \{$	$\}$
$G_4 = \{$	$\}$