CS 312: Artificial Intelligence Laboratory
Lab 9 Report

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1 Input 3: Stack Visualization

Pushed Goal state into stack initially.

1. **Stack:** pop()

   (on b c)∧(on a b)
   (on b c)

   Pushed stack ['a', 'b'] and preconditions

2. **Stack:** pop()

   (on b c)∧(on a b)
   (on b c)
   (stack a b)
   (AE)∧(clear b)∧(clear a)
   (AE)
   (clear b)

3. **Stack:** pop()

   (on b c)∧(on a b)
   (on b c)
   (stack a b)
   (AE)∧(clear b)∧(clear a)
   (AE)

4. **Stack:** pop()

   (on b c)∧(on a b)
   (on b c)
   (stack a b)
   (AE)∧(clear b)∧(clear a)

5. **Stack:** pop()

> (on b c)∧(on a b)
> (on b c)
> (stack a b)

6. **Stack:** pop()

> (on b c)∧(on a b)
> (on b c)

7. **Stack:** pop()

> (on b c)∧(on a b)

Pushed stack ['b', 'c'] and preconditions

8. **Stack:** pop()

> (on b c)∧(on a b)
> (stack b c)
> (AE)∧(clear c)∧(clear b)
> (AE)
> (clear c)

Pushed unstack ['a', 'b'] and preconditions

9. **Stack:** pop()

> (on b c)∧(on a b)
> (stack b c)
> (AE)∧(clear c)∧(clear b)
> (AE)
> (clear c)
> (unstack a b)
> (AE)∧(clear a)∧(on a b)
> (AE)
> (clear a)

10. **Stack:** pop()

> (on b c)∧(on a b)
> (stack b c)
> (AE)∧(clear c)∧(clear b)
> (AE)
> (clear c)
> (unstack a b)
> (AE)∧(clear a)∧(on a b)
> (AE)

11. **Stack:** pop()

```
(on b c)∧(on a b)
(stack b c)
(AE )∧(clear c)∧(clear b)
(AE )
(clear c)
(unstack a b)
(AE )∧(clear a)∧(on a b)
```

12. **Stack:** pop()

```
(on b c)∧(on a b)
(stack b c)
(AE )∧(clear c)∧(clear b)
(AE )
(clear c)
(unstack a b)
```

13. **Stack:** pop()

```
(on b c)∧(on a b)
(stack b c)
(AE )∧(clear c)∧(clear b)
(AE )
(clear c)
```

14. **Stack:** pop()

```
(on b c)∧(on a b)
(stack b c)
(AE )∧(clear c)∧(clear b)
(AE )
```

15. **Stack:** pop()

```
(on b c)∧(on a b)
(stack b c)
(AE )∧(clear c)∧(clear b)
```

Pushed putdown ['a'] and preconditions

16. **Stack:** pop()

```
(on b c)∧(on a b)
(stack b c)
(AE )∧(clear c)∧(clear b)
(putdown a)
(hold a)
```

17. **Stack:** pop()

```
(on b c)∧(on a b)
(stack b c)
(AE )∧(clear c)∧(clear b)
(putdown a)
```

18. **Stack:** pop()

```
(on b c)∧(on a b)
(stack b c)
(AE )∧(clear c)∧(clear b)
```

19. **Stack:** pop()

```
(on b c)∧(on a b)
(stack b c)
```

20. **Stack:** pop()

```
(on b c)∧(on a b)
```

21. **Stack:** pop()

```
□
```

22. **Stack:** pop()

```
(on b c)∧(on a b)
(on b c)
```

Pushed stack ['a', 'b'] and preconditions

23. **Stack:** pop()

```
(on b c)∧(on a b)
(on b c)
(stack a b)
(AE )∧(clear b)∧(clear a)
(AE )
(clear b)
```

24. **Stack:** pop()

```
(on b c)∧(on a b)
(on b c)
(stack a b)
(AE )∧(clear b)∧(clear a)
(AE )
```

25. **Stack:** pop()

```
(on b c)∧(on a b)
(on b c)
(stack a b)
(AE )∧(clear b)∧(clear a)
```

26. **Stack:** pop()

(on b c)∧(on a b)
(on b c)
(stack a b)

27. **Stack:** pop()

(on b c)∧(on a b)
(on b c)

28. **Stack:** pop()

(on b c)∧(on a b)

29. **Stack:** pop()

EMPTY