How things work college course/Turing machine quiz/Testbank/mirror

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Contents

BusyBeaver

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This document contains either a study guide OR pairs of exams taken from the same exam bank

If two exams have the same s-number, then v1 and v2 have the same questions, presented in different (random) order.
Exams with different s-numbers have different questions and may not have the same difficulty.
Click items in the table of contents and appropriate page should be reached. This feature should allow you to print only those pages that you need.

At the end of this document

Attribution for the quizzes identifies where the questions were obtained
Study guide links reading materials and/or relevant equations.

BusyBeaver-v1s1

1. If the machine is at A: 0<u>0</u>1110, what's next?

___ a) B: 01<u>1</u>110

___ b) A: 01<u>1</u>110

___ c) H: 01<u>1</u>110

___ d) H: 011<u>1</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

2. If the machine is at B: 00<u>0</u>110 , what's next?

___ a) B: 0001<u>1</u>1

___ b) A: 00<u>1</u>110

___ c) B: 0<u>0</u>1110

___ d) A: 0<u>0</u>1110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

3. If the machine is at A: 000<u>1</u>10, what's next?

___ a) B: 00<u>0</u>110

___ b) B: 0011<u>0</u>0

___ c) A: 00<u>0</u>110

___ d) A: 0011<u>1</u>0

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

4. If the machine is at B: 0001<u>0</u>0, what's next?

___ a) B: 000<u>1</u>10

___ b) A: 001<u>1</u>00

___ c) B: 0001<u>1</u>0

___ d) A: 000<u>1</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

5. If the machine is at A: 000<u>0</u>00, what's next?

___ a) A: 0001<u>0</u>0

___ b) A: 0000<u>1</u>0

___ c) B: 000<u>0</u>10

___ d) B: 0001<u>0</u>0

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

6. If the machine is at B: 01<u>1</u>110, what's next?

___ a) B: 011<u>1</u>10

___ b) H: 01<u>1</u>110

___ c) H: 011<u>1</u>10

___ d) A: 01<u>1</u>110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

Key to BusyBeaver-v1s1

1. If the machine is at A: 0<u>0</u>1110, what's next?

+ a) B: 01<u>1</u>110

- b) A: 01<u>1</u>110

- c) H: 01<u>1</u>110

- d) H: 011<u>1</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

2. If the machine is at B: 00<u>0</u>110 , what's next?

- a) B: 0001<u>1</u>1

- b) A: 00<u>1</u>110

- c) B: 0<u>0</u>1110

+ d) A: 0<u>0</u>1110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

3. If the machine is at A: 000<u>1</u>10, what's next?

+ a) B: 00<u>0</u>110

- b) B: 0011<u>0</u>0

- c) A: 00<u>0</u>110

- d) A: 0011<u>1</u>0

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

4. If the machine is at B: 0001<u>0</u>0, what's next?

- a) B: 000<u>1</u>10

- b) A: 001<u>1</u>00

- c) B: 0001<u>1</u>0

+ d) A: 000<u>1</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

5. If the machine is at A: 000<u>0</u>00, what's next?

- a) A: 0001<u>0</u>0
- b) A: 0000<u>1</u>0
- c) B: 000<u>0</u>10
+ d) B: 0001<u>0</u>0

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

6. If the machine is at B: 01<u>1</u>110, what's next?

- a) B: 011<u>1</u>10
- b) H: 01<u>1</u>110
+ c) H: 011<u>1</u>10
- d) A: 01<u>1</u>110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

BusyBeaver-v2s1

1. If the machine is at A: 000<u>0</u>00, what's next?

___ a) B: 0001<u>0</u>0

___ b) A: 00001<u>0</u>

___ c) A: 0001<u>0</u>0

___ d) B: 000<u>0</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

2. If the machine is at B: 00<u>0</u>110 , what's next?

___ a) B: 0<u>0</u>1110

___ b) A: 0<u>0</u>1110

___ c) B: 0001<u>1</u>1

___ d) A: 00<u>1</u>110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

3. If the machine is at B: 0001<u>0</u>0, what's next?

___ a) A: 001<u>1</u>00

___ b) B: 0001<u>1</u>0

___ c) A: 000<u>1</u>10

___ d) B: 000<u>1</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

4. If the machine is at A: 0<u>0</u>1110, what's next?

___ a) H: 01<u>1</u>110

___ b) B: 01<u>1</u>110

___ c) A: 01<u>1</u>110

___ d) H: 011<u>1</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

5. If the machine is at A: 000<u>1</u>10, what's next?

___ a) A: 00<u>0</u>110

___ b) B: 00<u>0</u>110

___ c) A: 0011<u>1</u>0

___ d) B: 0011<u>0</u>0

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

6. If the machine is at B: 01<u>1</u>110, what's next?

___ a) H: 01<u>1</u>110

___ b) A: 01<u>1</u>110

___ c) H: 011<u>1</u>10

___ d) B: 011<u>1</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

Key to BusyBeaver-v2s1

1. If the machine is at A: 000<u>0</u>00, what's next?

+ a) B: 0001<u>0</u>0

- b) A: 0000<u>1</u>0

- c) A: 0001<u>0</u>0

- d) B: 000<u>0</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

2. If the machine is at B: 00<u>0</u>110 , what's next?

- a) B: 0<u>0</u>1110

+ b) A: 0<u>0</u>1110

- c) B: 0001<u>1</u>1

- d) A: 00<u>1</u>110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

3. If the machine is at B: 0001<u>0</u>0, what's next?

- a) A: 001<u>1</u>00

- b) B: 0001<u>1</u>0

+ c) A: 000<u>1</u>10

- d) B: 000<u>1</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

4. If the machine is at A: 0<u>0</u>1110, what's next?

- a) H: 01<u>1</u>110

+ b) B: 01<u>1</u>110

- c) A: 01<u>1</u>110

- d) H: 011<u>1</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

5. If the machine is at A: 000110, what's next?

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

- a) A: 000110

+ b) B: 000110

- c) A: 001110

- d) B: 001100

6. If the machine is at B: 011110, what's next?

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

- a) H: 011110

- b) A: 011110

+ c) H: 011110

- d) B: 011110

BusyBeaver-v1s2

1. If the machine is at B: 000100, what's next?

___ a) B: 000110

___ b) A: 001100

___ c) A: 000110

___ d) B: 000110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

2. If the machine is at B: 011110, what's next?

___ a) H: 011110

___ b) B: 011110

___ c) H: 011110

___ d) A: 011110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

3. If the machine is at A: 000000, what's next?

___ a) A: 000100

___ b) A: 000010

___ c) B: 000100

___ d) B: 000010

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

4. If the machine is at A: 000110, what's next?

___ a) A: 001110

___ b) B: 000110

___ c) B: 001100

___ d) A: 000110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

5. If the machine is at A: 0<u>0</u>1110, what's next?

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

___ a) H: 011<u>1</u>10

___ b) A: 01<u>1</u>110

___ c) H: 01<u>1</u>110

___ d) B: 01<u>1</u>110

6. If the machine is at B: 00<u>0</u>110 , what's next?

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

___ a) A: 0<u>0</u>1110

___ b) A: 00<u>1</u>110

___ c) B: 0<u>0</u>1110

___ d) B: 0001<u>1</u>1

Key to BusyBeaver-v1s2

1. If the machine is at B: 0001<u>0</u>0, what's next?

- a) B: 0001<u>1</u>0
- b) A: 001<u>1</u>00
+ c) A: 000<u>1</u>10
- d) B: 000<u>1</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

2. If the machine is at B: 01<u>1</u>110, what's next?

+ a) H: 011<u>1</u>10
- b) B: 011<u>1</u>10
- c) H: 01<u>1</u>110
- d) A: 01<u>1</u>110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

3. If the machine is at A: 000<u>0</u>00, what's next?

- a) A: 0001<u>0</u>0
- b) A: 0000<u>1</u>0
+ c) B: 0001<u>0</u>0
- d) B: 000<u>0</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

4. If the machine is at A: 000<u>1</u>10, what's next?

- a) A: 0011<u>1</u>0
+ b) B: 00<u>0</u>110
- c) B: 0011<u>0</u>0
- d) A: 00<u>0</u>110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

5. If the machine is at A: 0<u>0</u>1110, what's next?

- a) H: 011<u>1</u>10
- b) A: 01<u>1</u>110
- c) H: 01<u>1</u>110
+ d) B: 01<u>1</u>110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

6. If the machine is at B: 00<u>0</u>110 , what's next?

+ a) A: 0<u>0</u>1110
- b) A: 00<u>1</u>110
- c) B: 0<u>0</u>1110
- d) B: 0001<u>1</u>1

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

BusyBeaver-v2s2

1. If the machine is at A: 000<u>0</u>00, what's next?

___ a) B: 000<u>0</u>10

___ b) A: 0001<u>0</u>0

___ c) B: 0001<u>0</u>0

___ d) A: 0000<u>1</u>0

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

2. If the machine is at B: 0001<u>0</u>0, what's next?

___ a) A: 001<u>1</u>00

___ b) B: 0001<u>1</u>0

___ c) B: 000<u>1</u>10

___ d) A: 000<u>1</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

3. If the machine is at A: 000<u>1</u>10, what's next?

___ a) B: 00<u>0</u>110

___ b) B: 0011<u>0</u>0

___ c) A: 00<u>0</u>110

___ d) A: 0011<u>1</u>0

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

4. If the machine is at A: 0<u>0</u>1110, what's next?

___ a) B: 01<u>1</u>110

___ b) H: 01<u>1</u>110

___ c) H: 011<u>1</u>10

___ d) A: 01<u>1</u>110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

5. If the machine is at B: 01<u>1</u>110, what's next?

___ a) H: 01<u>1</u>110

___ b) B: 011<u>1</u>10

___ c) H: 011<u>1</u>10

___ d) A: 01<u>1</u>110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

6. If the machine is at B: 00<u>0</u>110 , what's next?

___ a) B: 0<u>0</u>1110

___ b) A: 00<u>1</u>110

___ c) A: 0<u>0</u>1110

___ d) B: 0001<u>1</u>1

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

Key to BusyBeaver-v2s2

1. If the machine is at A: 000<u>0</u>00, what's next?

- a) B: 000<u>0</u>10
- b) A: 0001<u>0</u>0
+ c) B: 0001<u>0</u>0
- d) A: 0000<u>1</u>0

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

2. If the machine is at B: 0001<u>0</u>0, what's next?

- a) A: 001<u>1</u>00
- b) B: 0001<u>1</u>0
- c) B: 000<u>1</u>10
+ d) A: 000<u>1</u>10

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

3. If the machine is at A: 000<u>1</u>10, what's next?

+ a) B: 00<u>0</u>110
- b) B: 0011<u>0</u>0
- c) A: 00<u>0</u>110
- d) A: 0011<u>1</u>0

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

4. If the machine is at A: 0<u>0</u>1110, what's next?

+ a) B: 01<u>1</u>110
- b) H: 01<u>1</u>110
- c) H: 011<u>1</u>10
- d) A: 01<u>1</u>110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

5. If the machine is at B: 01<u>1</u>110, what's next?

- a) H: 01<u>1</u>110
- b) B: 011<u>1</u>10
+ c) H: 011<u>1</u>10
- d) A: 01<u>1</u>110

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

6. If the machine is at B: 00<u>0</u>110 , what's next?

- a) B: 0<u>0</u>1110
- b) A: 00<u>1</u>110
+ c) A: 0<u>0</u>1110
- d) B: 0001<u>1</u>1

R=right L=left
A & B are states

	A	B
0	1RB	1LA
1	1LB	1RH

H = halt

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Study guide

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