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# Implementação

Para o desenvolvimento de nossa máquina virtual, o grupo decidiu que seria mais vantajoso continuar com a implementação provida em Java previamente pelo professor, logo

seu funcionamento continua muito proximo a tal e com isso, para testar as novas funcionalidades disponibilizamos alguns programas que serão demonstrados em **Usabilidade.**

**Esta nova versão da máquina virtual conta com todas as funcionalidades requisitadas pelo professor, vide arquivos PDF disponibilizados no Moodle da disciplina.**

# Usabilidade

Para conseguir acessar e testar os programas disponiveis, deve-se abrir o arquivo **Sistema.java** e encontrar a função "main". Neste metódo pode-se perceber que todos os programas menos um estão comentados; para testar cada programa comente o atual e descomente o que deseja testar.

public static void main(String args[]) {

// PROGRAMA NORMAL FIBONACCI

// Sistema s = new Sistema();

// s.test1();

// PROGRAMA INTERRUPÇÃO ENDEREÇO INVÁLIDO

// Sistema s = new Sistema();

// s.errorMemory();

// PROGRAMA TESTE CHAMADA DE SISTEMA INPUT

// Sistema s = new Sistema();

// s.programTestTrapInput();

// PROGRAMA TESTE CHAMADA DE SISTEMA OUTPUT

// Sistema s = new Sistema();

// s.programTestTrapOutput();

// PROGRAMA INTERRUPÇÃO INSTRUÇÃO INVÁLIDA

// Sistema s = new Sistema();

// s.programTestInvalidInstruction();

// PROGRAMA TESTE OVERFLOW

// Sistema s = new Sistema();

// s.programTestOverflow();

// PROGRAMA TESTE MEMORY MANAGER

// Sistema s = new Sistema();

// s.programTestMemManager();

// PROGRAM TEST RUN ALL

// Sistema s = new Sistema();

// s.programTestRunAll();

// PROGRAM TEST SCHEDULER

Sistema s = new Sistema();

s.programTestScheduler();

}

Para executar o teste, compile e execute o arquivo.

Para compilar use “javac Sistema.java”

Para executar use “java Sistema”

# Saídas

Em seguida será possível visualizar a saída de cada programa após a execução dentro da máquina virtual.

# PROGRAMA TESTE OVERFLOW

---------------------------------- programa carregado

0: [ LDI, 0, -1, 2147483647 ]

1: [ LDI, 1, -1, 1236 ]

2: [ ADD, 0, 1, -1 ]

3: [ STD, 0, -1, 8 ]

4: [ STD, 1, -1, 9 ]

5: [ STOP, 1, -1, 0 ]

6: [ DATA, 50, -1, 1 ]

7: [ \_\_\_, -1, -1, -1 ]

8: [ \_\_\_, -1, -1, -1 ]

9: [ \_\_\_, -1, -1, -1 ]

---------------------------------- após execucao

A interruption has just happened! interruptOverflow

0: [ LDI, 0, -1, 2147483647 ]

1: [ LDI, 1, -1, 1236 ]

2: [ ADD, 0, 1, -1 ]

3: [ STD, 0, -1, 8 ]

4: [ STD, 1, -1, 9 ]

5: [ STOP, 1, -1, 0 ]

6: [ DATA, 50, -1, 1 ]

7: [ \_\_\_, -1, -1, -1 ]

8: [ \_\_\_, -1, -1, -1 ]

9: [ \_\_\_, -1, -1, -1 ]

# PROGRAMA INTERRUPÇÃO INSTRUÇÃO INVÁLIDA

---------------------------------- programa carregado

0: [ \_\_\_, 8, -1, 1 ]

1: [ LDI, 9, -1, 50 ]

2: [ TRAP, -1, -1, -1 ]

3: [ STOP, 1, -1, 0 ]

4: [ DATA, 50, -1, 1 ]

5: [ \_\_\_, -1, -1, -1 ]

6: [ \_\_\_, -1, -1, -1 ]

7: [ \_\_\_, -1, -1, -1 ]

8: [ \_\_\_, -1, -1, -1 ]

9: [ \_\_\_, -1, -1, -1 ]

---------------------------------- após execucao

A interruption has just happened! interruptInvalidInstruction

0: [ \_\_\_, 8, -1, 1 ]

1: [ LDI, 9, -1, 50 ]

2: [ TRAP, -1, -1, -1 ]

3: [ STOP, 1, -1, 0 ]

4: [ DATA, 50, -1, 1 ]

5: [ \_\_\_, -1, -1, -1 ]

6: [ \_\_\_, -1, -1, -1 ]

7: [ \_\_\_, -1, -1, -1 ]

8: [ \_\_\_, -1, -1, -1 ]

9: [ \_\_\_, -1, -1, -1 ]

# PROGRAMA TESTE CHAMADA DE SISTEMA OUTPUT

---------------------------------- programa carregado

0: [ LDI, 8, -1, 2 ]

1: [ LDI, 9, -1, 8 ]

2: [ STD, 9, -1, 8 ]

3: [ TRAP, -1, -1, -1 ]

4: [ STOP, 1, -1, 0 ]

5: [ \_\_\_, -1, -1, -1 ]

6: [ \_\_\_, -1, -1, -1 ]

7: [ \_\_\_, -1, -1, -1 ]

8: [ \_\_\_, -1, -1, -1 ]

9: [ \_\_\_, -1, -1, -1 ]

---------------------------------- após execucao

A system call has just happened! 2|8

Output:

[ DATA, -1, -1, 8 ]

\_interruptScheduler\_

\*\*\*interruptStop\*\*\*

0: [ LDI, 8, -1, 2 ]

1: [ LDI, 9, -1, 8 ]

2: [ STD, 9, -1, 8 ]

3: [ TRAP, -1, -1, -1 ]

4: [ STOP, 1, -1, 0 ]

5: [ \_\_\_, -1, -1, -1 ]

6: [ \_\_\_, -1, -1, -1 ]

7: [ \_\_\_, -1, -1, -1 ]

8: [ DATA, -1, -1, 8 ]

9: [ \_\_\_, -1, -1, -1 ]

# PROGRAMA CHAMADA DE SISTEMA INPUT

---------------------------------- programa carregado

0: [ LDI, 8, -1, 1 ]

1: [ LDI, 9, -1, 8 ]

2: [ TRAP, -1, -1, -1 ]

3: [ STOP, 1, -1, 0 ]

4: [ \_\_\_, -1, -1, -1 ]

5: [ \_\_\_, -1, -1, -1 ]

6: [ \_\_\_, -1, -1, -1 ]

7: [ \_\_\_, -1, -1, -1 ]

8: [ \_\_\_, -1, -1, -1 ]

9: [ \_\_\_, -1, -1, -1 ]

---------------------------------- após execucao

A system call has just happened! 1|8

Please input an integer:

2

Value stored in the position 8

Stored value:

[ DATA, -1, -1, 2 ]

\*\*\*interruptStop\*\*\*

0: [ LDI, 8, -1, 1 ]

1: [ LDI, 9, -1, 8 ]

2: [ TRAP, -1, -1, -1 ]

3: [ STOP, 1, -1, 0 ]

4: [ \_\_\_, -1, -1, -1 ]

5: [ \_\_\_, -1, -1, -1 ]

6: [ \_\_\_, -1, -1, -1 ]

7: [ \_\_\_, -1, -1, -1 ]

8: [ DATA, -1, -1, 2 ]

9: [ \_\_\_, -1, -1, -1 ]

# PROGRAMA INTERRUPÇÃO ENDEREÇO INVÁLIDO

---------------------------------- programa carregado

0: [ LDI, 1, -1, 50 ]

1: [ LDI, 7, -1, 7 ]

2: [ JMPIG, 7, 1, -1 ]

3: [ LDI, 7, -1, 69 ]

4: [ STD, 7, -1, 60 ]

5: [ STOP, 1, -1, 0 ]

6: [ LDI, 2, -1, 0 ]

7: [ ADD, 2, 1, -1 ]

8: [ LDI, 6, -1, 1 ]

9: [ SUB, 1, 6, -1 ]

10: [ LDI, 7, -1, 8 ]

11: [ JMPIG, 7, 1, -1 ]

12: [ STD, 0, -1, 50 ]

13: [ STD, 1, -1, 51 ]

14: [ STD, 2, -1, 52 ]

15: [ STD, 3, -1, 53 ]

16: [ STD, 4, -1, 54 ]

17: [ STD, 5, -1, 55 ]

18: [ STD, 6, -1, 56 ]

19: [ STD, 7, -1, 57 ]

20: [ LDI, 1, -1, 59 ]

21: [ STD, 1, -1, 1024 ]

22: [ STOP, 1, -1, 0 ]

23: [ \_\_\_, -1, -1, -1 ]

24: [ \_\_\_, -1, -1, -1 ]

25: [ \_\_\_, -1, -1, -1 ]

26: [ \_\_\_, -1, -1, -1 ]

27: [ \_\_\_, -1, -1, -1 ]

28: [ \_\_\_, -1, -1, -1 ]

29: [ \_\_\_, -1, -1, -1 ]

30: [ \_\_\_, -1, -1, -1 ]

31: [ \_\_\_, -1, -1, -1 ]

---------------------------------- após execucao

\_interruptScheduler\_

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A interruption has just happened! interruptInvalidAddress

0: [ LDI, 1, -1, 50 ]

1: [ LDI, 7, -1, 7 ]

2: [ JMPIG, 7, 1, -1 ]

3: [ LDI, 7, -1, 69 ]

4: [ STD, 7, -1, 60 ]

5: [ STOP, 1, -1, 0 ]

6: [ LDI, 2, -1, 0 ]

7: [ ADD, 2, 1, -1 ]

8: [ LDI, 6, -1, 1 ]

9: [ SUB, 1, 6, -1 ]

10: [ LDI, 7, -1, 8 ]

11: [ JMPIG, 7, 1, -1 ]

12: [ STD, 0, -1, 50 ]

13: [ STD, 1, -1, 51 ]

14: [ STD, 2, -1, 52 ]

15: [ STD, 3, -1, 53 ]

16: [ STD, 4, -1, 54 ]

17: [ STD, 5, -1, 55 ]

18: [ STD, 6, -1, 56 ]

19: [ STD, 7, -1, 57 ]

20: [ LDI, 1, -1, 59 ]

21: [ STD, 1, -1, 1024 ]

22: [ STOP, 1, -1, 0 ]

23: [ \_\_\_, -1, -1, -1 ]

24: [ \_\_\_, -1, -1, -1 ]

25: [ \_\_\_, -1, -1, -1 ]

26: [ \_\_\_, -1, -1, -1 ]

27: [ \_\_\_, -1, -1, -1 ]

28: [ \_\_\_, -1, -1, -1 ]

29: [ \_\_\_, -1, -1, -1 ]

30: [ \_\_\_, -1, -1, -1 ]

31: [ \_\_\_, -1, -1, -1 ]

# 

# PROGRAMA NORMAL FIBONACCI

---------------------------------- programa carregado

0: [ LDI, 1, -1, 0 ]

1: [ STD, 1, -1, 20 ]

2: [ LDI, 2, -1, 1 ]

3: [ STD, 2, -1, 21 ]

4: [ LDI, 0, -1, 22 ]

5: [ LDI, 6, -1, 6 ]

6: [ LDI, 7, -1, 31 ]

7: [ LDI, 3, -1, 0 ]

8: [ ADD, 3, 1, -1 ]

9: [ LDI, 1, -1, 0 ]

10: [ ADD, 1, 2, -1 ]

11: [ ADD, 2, 3, -1 ]

12: [ STX, 0, 2, -1 ]

13: [ ADDI, 0, -1, 1 ]

14: [ SUB, 7, 0, -1 ]

15: [ JMPIG, 6, 7, -1 ]

16: [ STOP, -1, -1, -1 ]

17: [ STOP, -1, -1, -1 ]

18: [ STOP, -1, -1, -1 ]

19: [ STOP, -1, -1, -1 ]

20: [ STOP, -1, -1, -1 ]

21: [ STOP, -1, -1, -1 ]

22: [ STOP, -1, -1, -1 ]

23: [ STOP, -1, -1, -1 ]

24: [ STOP, -1, -1, -1 ]

25: [ STOP, -1, -1, -1 ]

26: [ STOP, -1, -1, -1 ]

27: [ STOP, -1, -1, -1 ]

28: [ STOP, -1, -1, -1 ]

29: [ STOP, -1, -1, -1 ]

30: [ STOP, -1, -1, -1 ]

31: [ STOP, -1, -1, -1 ]

---------------------------------- após execucao

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\_interruptScheduler\_

\_interruptScheduler\_

\*\*\*interruptStop\*\*\*

0: [ LDI, 1, -1, 0 ]

1: [ STD, 1, -1, 20 ]

2: [ LDI, 2, -1, 1 ]

3: [ STD, 2, -1, 21 ]

4: [ LDI, 0, -1, 22 ]

5: [ LDI, 6, -1, 6 ]

6: [ LDI, 7, -1, 31 ]

7: [ LDI, 3, -1, 0 ]

8: [ ADD, 3, 1, -1 ]

9: [ LDI, 1, -1, 0 ]

10: [ ADD, 1, 2, -1 ]

11: [ ADD, 2, 3, -1 ]

12: [ STX, 0, 2, -1 ]

13: [ ADDI, 0, -1, 1 ]

14: [ SUB, 7, 0, -1 ]

15: [ JMPIG, 6, 7, -1 ]

16: [ STOP, -1, -1, -1 ]

17: [ STOP, -1, -1, -1 ]

18: [ STOP, -1, -1, -1 ]

19: [ STOP, -1, -1, -1 ]

20: [ DATA, -1, -1, 0 ]

21: [ DATA, -1, -1, 1 ]

22: [ DATA, -1, -1, 1 ]

23: [ DATA, -1, -1, 2 ]

24: [ DATA, -1, -1, 3 ]

25: [ DATA, -1, -1, 5 ]

26: [ DATA, -1, -1, 8 ]

27: [ DATA, -1, -1, 13 ]

28: [ DATA, -1, -1, 21 ]

29: [ DATA, -1, -1, 34 ]

30: [ DATA, -1, -1, 55 ]

31: [ STOP, -1, -1, -1 ]

# PROGRAMA TESTE MEMORY MANAGER

new process successful? true

new process successful? true

0: [ DATA, 1, -1, 1 ]

1: [ DATA, 1, -1, 1 ]

2: [ DATA, 1, -1, 1 ]

3: [ DATA, 1, -1, 1 ]

4: [ DATA, 1, -1, 1 ]

5: [ DATA, 1, -1, 1 ]

6: [ DATA, 1, -1, 1 ]

7: [ DATA, 1, -1, 1 ]

8: [ DATA, 1, -1, 1 ]

9: [ DATA, 1, -1, 1 ]

10: [ DATA, 1, -1, 1 ]

11: [ DATA, 1, -1, 1 ]

12: [ DATA, 1, -1, 1 ]

13: [ DATA, 1, -1, 1 ]

14: [ DATA, 1, -1, 1 ]

15: [ DATA, 1, -1, 1 ]

16: [ DATA, 1, -1, 1 ]

17: [ DATA, 1, -1, 1 ]

18: [ DATA, 1, -1, 1 ]

19: [ DATA, 1, -1, 1 ]

20: [ DATA, 1, -1, 1 ]

21: [ DATA, 1, -1, 1 ]

22: [ DATA, 1, -1, 1 ]

23: [ DATA, 1, -1, 1 ]

24: [ DATA, 1, -1, 1 ]

25: [ DATA, 1, -1, 1 ]

26: [ DATA, 1, -1, 1 ]

27: [ DATA, 1, -1, 1 ]

28: [ DATA, 1, -1, 1 ]

29: [ DATA, 1, -1, 1 ]

30: [ DATA, 1, -1, 1 ]

31: [ DATA, 1, -1, 1 ]

32: [ DATA, 2, -1, 1 ]

33: [ DATA, 2, -1, 1 ]

34: [ DATA, 2, -1, 1 ]

35: [ DATA, 2, -1, 1 ]

36: [ DATA, 2, -1, 1 ]

37: [ DATA, 2, -1, 1 ]

38: [ DATA, 2, -1, 1 ]

39: [ DATA, 2, -1, 1 ]

40: [ DATA, 2, -1, 1 ]

41: [ DATA, 2, -1, 1 ]

42: [ DATA, 2, -1, 1 ]

43: [ DATA, 2, -1, 1 ]

44: [ DATA, 2, -1, 1 ]

45: [ DATA, 2, -1, 1 ]

46: [ DATA, 2, -1, 1 ]

47: [ DATA, 2, -1, 1 ]

48: [ DATA, 2, -1, 1 ]

49: [ DATA, 2, -1, 1 ]

50: [ DATA, 2, -1, 1 ]

51: [ DATA, 2, -1, 1 ]

52: [ DATA, 2, -1, 1 ]

53: [ DATA, 2, -1, 1 ]

54: [ DATA, 2, -1, 1 ]

55: [ DATA, 2, -1, 1 ]

56: [ DATA, 2, -1, 1 ]

57: [ DATA, 2, -1, 1 ]

58: [ DATA, 2, -1, 1 ]

59: [ DATA, 2, -1, 1 ]

60: [ DATA, 2, -1, 1 ]

61: [ DATA, 2, -1, 1 ]

62: [ DATA, 2, -1, 1 ]

63: [ DATA, 2, -1, 1 ]

64: [ \_\_\_, -1, -1, -1 ]

65: [ \_\_\_, -1, -1, -1 ]

66: [ \_\_\_, -1, -1, -1 ]

67: [ \_\_\_, -1, -1, -1 ]

68: [ \_\_\_, -1, -1, -1 ]

69: [ \_\_\_, -1, -1, -1 ]

70: [ \_\_\_, -1, -1, -1 ]

71: [ \_\_\_, -1, -1, -1 ]

72: [ \_\_\_, -1, -1, -1 ]

73: [ \_\_\_, -1, -1, -1 ]

74: [ \_\_\_, -1, -1, -1 ]

75: [ \_\_\_, -1, -1, -1 ]

76: [ \_\_\_, -1, -1, -1 ]

77: [ \_\_\_, -1, -1, -1 ]

78: [ \_\_\_, -1, -1, -1 ]

79: [ \_\_\_, -1, -1, -1 ]

80: [ \_\_\_, -1, -1, -1 ]

81: [ \_\_\_, -1, -1, -1 ]

82: [ \_\_\_, -1, -1, -1 ]

83: [ \_\_\_, -1, -1, -1 ]

84: [ \_\_\_, -1, -1, -1 ]

85: [ \_\_\_, -1, -1, -1 ]

86: [ \_\_\_, -1, -1, -1 ]

87: [ \_\_\_, -1, -1, -1 ]

88: [ \_\_\_, -1, -1, -1 ]

89: [ \_\_\_, -1, -1, -1 ]

90: [ \_\_\_, -1, -1, -1 ]

91: [ \_\_\_, -1, -1, -1 ]

92: [ \_\_\_, -1, -1, -1 ]

93: [ \_\_\_, -1, -1, -1 ]

94: [ \_\_\_, -1, -1, -1 ]

95: [ \_\_\_, -1, -1, -1 ]

96: [ \_\_\_, -1, -1, -1 ]

new process successful? true

new process successful? true

0: [ DATA, 1, -1, 1 ]

1: [ DATA, 1, -1, 1 ]

2: [ DATA, 1, -1, 1 ]

3: [ DATA, 1, -1, 1 ]

4: [ DATA, 1, -1, 1 ]

5: [ DATA, 1, -1, 1 ]

6: [ DATA, 1, -1, 1 ]

7: [ DATA, 1, -1, 1 ]

8: [ DATA, 1, -1, 1 ]

9: [ DATA, 1, -1, 1 ]

10: [ DATA, 1, -1, 1 ]

11: [ DATA, 1, -1, 1 ]

12: [ DATA, 1, -1, 1 ]

13: [ DATA, 1, -1, 1 ]

14: [ DATA, 1, -1, 1 ]

15: [ DATA, 1, -1, 1 ]

16: [ DATA, 1, -1, 1 ]

17: [ DATA, 1, -1, 1 ]

18: [ DATA, 1, -1, 1 ]

19: [ DATA, 1, -1, 1 ]

20: [ DATA, 1, -1, 1 ]

21: [ DATA, 1, -1, 1 ]

22: [ DATA, 1, -1, 1 ]

23: [ DATA, 1, -1, 1 ]

24: [ DATA, 1, -1, 1 ]

25: [ DATA, 1, -1, 1 ]

26: [ DATA, 1, -1, 1 ]

27: [ DATA, 1, -1, 1 ]

28: [ DATA, 1, -1, 1 ]

29: [ DATA, 1, -1, 1 ]

30: [ DATA, 1, -1, 1 ]

31: [ DATA, 1, -1, 1 ]

32: [ DATA, 3, -1, 1 ]

33: [ DATA, 3, -1, 1 ]

34: [ DATA, 3, -1, 1 ]

35: [ DATA, 3, -1, 1 ]

36: [ DATA, 3, -1, 1 ]

37: [ DATA, 3, -1, 1 ]

38: [ DATA, 3, -1, 1 ]

39: [ DATA, 3, -1, 1 ]

40: [ DATA, 3, -1, 1 ]

41: [ DATA, 3, -1, 1 ]

42: [ DATA, 3, -1, 1 ]

43: [ DATA, 3, -1, 1 ]

44: [ DATA, 3, -1, 1 ]

45: [ DATA, 3, -1, 1 ]

46: [ DATA, 3, -1, 1 ]

47: [ DATA, 3, -1, 1 ]

48: [ DATA, 3, -1, 1 ]

49: [ DATA, 3, -1, 1 ]

50: [ DATA, 3, -1, 1 ]

51: [ DATA, 3, -1, 1 ]

52: [ DATA, 3, -1, 1 ]

53: [ DATA, 3, -1, 1 ]

54: [ DATA, 3, -1, 1 ]

55: [ DATA, 3, -1, 1 ]

56: [ DATA, 3, -1, 1 ]

57: [ DATA, 3, -1, 1 ]

58: [ DATA, 3, -1, 1 ]

59: [ DATA, 3, -1, 1 ]

60: [ DATA, 3, -1, 1 ]

61: [ DATA, 3, -1, 1 ]

62: [ DATA, 3, -1, 1 ]

63: [ DATA, 3, -1, 1 ]

64: [ DATA, 2, -1, 1 ]

65: [ DATA, 2, -1, 1 ]

66: [ DATA, 2, -1, 1 ]

67: [ DATA, 2, -1, 1 ]

68: [ DATA, 2, -1, 1 ]

69: [ DATA, 2, -1, 1 ]

70: [ DATA, 2, -1, 1 ]

71: [ DATA, 2, -1, 1 ]

72: [ DATA, 2, -1, 1 ]

73: [ DATA, 2, -1, 1 ]

74: [ DATA, 2, -1, 1 ]

75: [ DATA, 2, -1, 1 ]

76: [ DATA, 2, -1, 1 ]

77: [ DATA, 2, -1, 1 ]

78: [ DATA, 2, -1, 1 ]

79: [ DATA, 2, -1, 1 ]

80: [ DATA, 2, -1, 1 ]

81: [ DATA, 2, -1, 1 ]

82: [ DATA, 2, -1, 1 ]

83: [ DATA, 2, -1, 1 ]

84: [ DATA, 2, -1, 1 ]

85: [ DATA, 2, -1, 1 ]

86: [ DATA, 2, -1, 1 ]

87: [ DATA, 2, -1, 1 ]

88: [ DATA, 2, -1, 1 ]

89: [ DATA, 2, -1, 1 ]

90: [ DATA, 2, -1, 1 ]

91: [ DATA, 2, -1, 1 ]

92: [ DATA, 2, -1, 1 ]

93: [ DATA, 2, -1, 1 ]

94: [ DATA, 2, -1, 1 ]

95: [ DATA, 2, -1, 1 ]

96: [ \_\_\_, -1, -1, -1 ]

# PROGRAMA TESTE RUN ALL

new process successful? true

new process successful? true

new process successful? true

new process successful? true

0: [ LDI, 1, -1, 0 ]

1: [ STD, 1, -1, 20 ]

2: [ LDI, 2, -1, 1 ]

3: [ STD, 2, -1, 21 ]

4: [ LDI, 0, -1, 22 ]

5: [ LDI, 6, -1, 6 ]

6: [ LDI, 7, -1, 31 ]

7: [ LDI, 3, -1, 0 ]

8: [ ADD, 3, 1, -1 ]

9: [ LDI, 1, -1, 0 ]

10: [ ADD, 1, 2, -1 ]

11: [ ADD, 2, 3, -1 ]

12: [ STX, 0, 2, -1 ]

13: [ ADDI, 0, -1, 1 ]

14: [ SUB, 7, 0, -1 ]

15: [ JMPIG, 6, 7, -1 ]

16: [ STOP, -1, -1, -1 ]

17: [ STOP, -1, -1, -1 ]

18: [ STOP, -1, -1, -1 ]

19: [ STOP, -1, -1, -1 ]

20: [ STOP, -1, -1, -1 ]

21: [ STOP, -1, -1, -1 ]

22: [ STOP, -1, -1, -1 ]

23: [ STOP, -1, -1, -1 ]

24: [ STOP, -1, -1, -1 ]

25: [ STOP, -1, -1, -1 ]

26: [ STOP, -1, -1, -1 ]

27: [ STOP, -1, -1, -1 ]

28: [ STOP, -1, -1, -1 ]

29: [ STOP, -1, -1, -1 ]

30: [ STOP, -1, -1, -1 ]

31: [ STOP, -1, -1, -1 ]

32: [ LDI, 1, -1, 0 ]

33: [ STD, 1, -1, 20 ]

34: [ LDI, 2, -1, 1 ]

35: [ STD, 2, -1, 21 ]

36: [ LDI, 0, -1, 22 ]

37: [ LDI, 6, -1, 6 ]

38: [ LDI, 7, -1, 31 ]

39: [ LDI, 3, -1, 0 ]

40: [ ADD, 3, 1, -1 ]

41: [ LDI, 1, -1, 0 ]

42: [ ADD, 1, 2, -1 ]

43: [ ADD, 2, 3, -1 ]

44: [ STX, 0, 2, -1 ]

45: [ ADDI, 0, -1, 1 ]

46: [ SUB, 7, 0, -1 ]

47: [ JMPIG, 6, 7, -1 ]

48: [ STOP, -1, -1, -1 ]

49: [ STOP, -1, -1, -1 ]

50: [ STOP, -1, -1, -1 ]

51: [ STOP, -1, -1, -1 ]

52: [ STOP, -1, -1, -1 ]

53: [ STOP, -1, -1, -1 ]

54: [ STOP, -1, -1, -1 ]

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56: [ STOP, -1, -1, -1 ]

57: [ STOP, -1, -1, -1 ]

58: [ STOP, -1, -1, -1 ]

59: [ STOP, -1, -1, -1 ]

60: [ STOP, -1, -1, -1 ]

61: [ STOP, -1, -1, -1 ]

62: [ STOP, -1, -1, -1 ]

63: [ STOP, -1, -1, -1 ]

64: [ DATA, 1, -1, 1 ]

65: [ DATA, 1, -1, 1 ]

66: [ DATA, 1, -1, 1 ]

67: [ DATA, 1, -1, 1 ]

68: [ DATA, 1, -1, 1 ]

69: [ DATA, 1, -1, 1 ]

70: [ DATA, 1, -1, 1 ]

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80: [ DATA, 1, -1, 1 ]

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90: [ DATA, 1, -1, 1 ]

91: [ DATA, 1, -1, 1 ]

92: [ DATA, 1, -1, 1 ]

93: [ DATA, 1, -1, 1 ]

94: [ DATA, 1, -1, 1 ]

95: [ DATA, 1, -1, 1 ]

96: [ \_\_\_, -1, -1, -1 ]

97: [ \_\_\_, -1, -1, -1 ]

98: [ \_\_\_, -1, -1, -1 ]

99: [ \_\_\_, -1, -1, -1 ]

100: [ \_\_\_, -1, -1, -1 ]

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102: [ \_\_\_, -1, -1, -1 ]

103: [ \_\_\_, -1, -1, -1 ]

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105: [ \_\_\_, -1, -1, -1 ]

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107: [ \_\_\_, -1, -1, -1 ]

108: [ \_\_\_, -1, -1, -1 ]

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116: [ \_\_\_, -1, -1, -1 ]

117: [ \_\_\_, -1, -1, -1 ]

118: [ \_\_\_, -1, -1, -1 ]

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121: [ \_\_\_, -1, -1, -1 ]

122: [ \_\_\_, -1, -1, -1 ]

123: [ \_\_\_, -1, -1, -1 ]

124: [ \_\_\_, -1, -1, -1 ]

125: [ \_\_\_, -1, -1, -1 ]

126: [ \_\_\_, -1, -1, -1 ]

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\*\*\*interruptStop\*\*\*

\*\*\*interruptStop\*\*\*

----------------------------- after run all

0: [ LDI, 1, -1, 0 ]

1: [ STD, 1, -1, 20 ]

2: [ LDI, 2, -1, 1 ]

3: [ STD, 2, -1, 21 ]

4: [ LDI, 0, -1, 22 ]

5: [ LDI, 6, -1, 6 ]

6: [ LDI, 7, -1, 31 ]

7: [ LDI, 3, -1, 0 ]

8: [ ADD, 3, 1, -1 ]

9: [ LDI, 1, -1, 0 ]

10: [ ADD, 1, 2, -1 ]

11: [ ADD, 2, 3, -1 ]

12: [ STX, 0, 2, -1 ]

13: [ ADDI, 0, -1, 1 ]

14: [ SUB, 7, 0, -1 ]

15: [ JMPIG, 6, 7, -1 ]

16: [ STOP, -1, -1, -1 ]

17: [ STOP, -1, -1, -1 ]

18: [ STOP, -1, -1, -1 ]

19: [ STOP, -1, -1, -1 ]

20: [ DATA, -1, -1, 0 ]

21: [ DATA, -1, -1, 1 ]

22: [ DATA, -1, -1, 1 ]

23: [ DATA, -1, -1, 2 ]

24: [ DATA, -1, -1, 3 ]

25: [ DATA, -1, -1, 5 ]

26: [ DATA, -1, -1, 8 ]

27: [ DATA, -1, -1, 13 ]

28: [ DATA, -1, -1, 21 ]

29: [ DATA, -1, -1, 34 ]

30: [ DATA, -1, -1, 55 ]

31: [ STOP, -1, -1, -1 ]

32: [ LDI, 1, -1, 0 ]

33: [ STD, 1, -1, 20 ]

34: [ LDI, 2, -1, 1 ]

35: [ STD, 2, -1, 21 ]

36: [ LDI, 0, -1, 22 ]

37: [ LDI, 6, -1, 6 ]

38: [ LDI, 7, -1, 31 ]

39: [ LDI, 3, -1, 0 ]

40: [ ADD, 3, 1, -1 ]

41: [ LDI, 1, -1, 0 ]

42: [ ADD, 1, 2, -1 ]

43: [ ADD, 2, 3, -1 ]

44: [ STX, 0, 2, -1 ]

45: [ ADDI, 0, -1, 1 ]

46: [ SUB, 7, 0, -1 ]

47: [ JMPIG, 6, 7, -1 ]

48: [ STOP, -1, -1, -1 ]

49: [ STOP, -1, -1, -1 ]

50: [ STOP, -1, -1, -1 ]

51: [ STOP, -1, -1, -1 ]

52: [ DATA, -1, -1, 0 ]

53: [ DATA, -1, -1, 1 ]

54: [ DATA, -1, -1, 1 ]

55: [ DATA, -1, -1, 2 ]

56: [ DATA, -1, -1, 3 ]

57: [ DATA, -1, -1, 5 ]

58: [ DATA, -1, -1, 8 ]

59: [ DATA, -1, -1, 13 ]

60: [ DATA, -1, -1, 21 ]

61: [ DATA, -1, -1, 34 ]

62: [ DATA, -1, -1, 55 ]

63: [ STOP, -1, -1, -1 ]

64: [ DATA, 1, -1, 1 ]

65: [ DATA, 1, -1, 1 ]

66: [ DATA, 1, -1, 1 ]

67: [ DATA, 1, -1, 1 ]

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76: [ DATA, 1, -1, 1 ]

77: [ DATA, 1, -1, 1 ]

78: [ DATA, 1, -1, 1 ]

79: [ DATA, 1, -1, 1 ]

80: [ DATA, 1, -1, 1 ]

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87: [ DATA, 1, -1, 1 ]

88: [ DATA, 1, -1, 1 ]

89: [ DATA, 1, -1, 1 ]

90: [ DATA, 1, -1, 1 ]

91: [ DATA, 1, -1, 1 ]

92: [ DATA, 1, -1, 1 ]

93: [ DATA, 1, -1, 1 ]

94: [ DATA, 1, -1, 1 ]

95: [ DATA, 1, -1, 1 ]

96: [ \_\_\_, -1, -1, -1 ]

97: [ \_\_\_, -1, -1, -1 ]

98: [ \_\_\_, -1, -1, -1 ]

99: [ \_\_\_, -1, -1, -1 ]

100: [ \_\_\_, -1, -1, -1 ]

101: [ \_\_\_, -1, -1, -1 ]

102: [ \_\_\_, -1, -1, -1 ]

103: [ \_\_\_, -1, -1, -1 ]

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108: [ \_\_\_, -1, -1, -1 ]

109: [ \_\_\_, -1, -1, -1 ]

110: [ \_\_\_, -1, -1, -1 ]

111: [ \_\_\_, -1, -1, -1 ]

112: [ \_\_\_, -1, -1, -1 ]

113: [ \_\_\_, -1, -1, -1 ]

114: [ \_\_\_, -1, -1, -1 ]

115: [ \_\_\_, -1, -1, -1 ]

116: [ \_\_\_, -1, -1, -1 ]

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121: [ \_\_\_, -1, -1, -1 ]

122: [ \_\_\_, -1, -1, -1 ]

123: [ \_\_\_, -1, -1, -1 ]

124: [ \_\_\_, -1, -1, -1 ]

125: [ \_\_\_, -1, -1, -1 ]

126: [ \_\_\_, -1, -1, -1 ]

127: [ \_\_\_, -1, -1, -1 ]

# PROGRAMA TESTE SCHEDULER

new process successful? true

new process successful? true

new process successful? true

0: [ LDI, 1, -1, 0 ]

1: [ STD, 1, -1, 20 ]

2: [ LDI, 2, -1, 1 ]

3: [ STD, 2, -1, 21 ]

4: [ LDI, 0, -1, 22 ]

5: [ LDI, 6, -1, 6 ]

6: [ LDI, 7, -1, 31 ]

7: [ LDI, 3, -1, 0 ]

8: [ ADD, 3, 1, -1 ]

9: [ LDI, 1, -1, 0 ]

10: [ ADD, 1, 2, -1 ]

11: [ ADD, 2, 3, -1 ]

12: [ STX, 0, 2, -1 ]

13: [ ADDI, 0, -1, 1 ]

14: [ SUB, 7, 0, -1 ]

15: [ JMPIG, 6, 7, -1 ]

16: [ STOP, -1, -1, -1 ]

17: [ STOP, -1, -1, -1 ]

18: [ STOP, -1, -1, -1 ]

19: [ STOP, -1, -1, -1 ]

20: [ STOP, -1, -1, -1 ]

21: [ STOP, -1, -1, -1 ]

22: [ STOP, -1, -1, -1 ]

23: [ STOP, -1, -1, -1 ]

24: [ STOP, -1, -1, -1 ]

25: [ STOP, -1, -1, -1 ]

26: [ STOP, -1, -1, -1 ]

27: [ STOP, -1, -1, -1 ]

28: [ STOP, -1, -1, -1 ]

29: [ STOP, -1, -1, -1 ]

30: [ STOP, -1, -1, -1 ]

31: [ STOP, -1, -1, -1 ]

32: [ LDI, 1, -1, 0 ]

33: [ STD, 1, -1, 20 ]

34: [ LDI, 2, -1, 1 ]

35: [ STD, 2, -1, 21 ]

36: [ LDI, 0, -1, 22 ]

37: [ LDI, 6, -1, 6 ]

38: [ LDI, 7, -1, 31 ]

39: [ LDI, 3, -1, 0 ]

40: [ ADD, 3, 1, -1 ]

41: [ LDI, 1, -1, 0 ]

42: [ ADD, 1, 2, -1 ]

43: [ ADD, 2, 3, -1 ]

44: [ STX, 0, 2, -1 ]

45: [ ADDI, 0, -1, 1 ]

46: [ SUB, 7, 0, -1 ]

47: [ JMPIG, 6, 7, -1 ]

48: [ STOP, -1, -1, -1 ]

49: [ STOP, -1, -1, -1 ]

50: [ STOP, -1, -1, -1 ]

51: [ STOP, -1, -1, -1 ]

52: [ STOP, -1, -1, -1 ]

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54: [ STOP, -1, -1, -1 ]

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56: [ STOP, -1, -1, -1 ]

57: [ STOP, -1, -1, -1 ]

58: [ STOP, -1, -1, -1 ]

59: [ STOP, -1, -1, -1 ]

60: [ STOP, -1, -1, -1 ]

61: [ STOP, -1, -1, -1 ]

62: [ STOP, -1, -1, -1 ]

63: [ STOP, -1, -1, -1 ]

64: [ LDI, 1, -1, 0 ]

65: [ STD, 1, -1, 20 ]

66: [ LDI, 2, -1, 1 ]

67: [ STD, 2, -1, 21 ]

68: [ LDI, 0, -1, 22 ]

69: [ LDI, 6, -1, 6 ]

70: [ LDI, 7, -1, 31 ]

71: [ LDI, 3, -1, 0 ]

72: [ ADD, 3, 1, -1 ]

73: [ LDI, 1, -1, 0 ]

74: [ ADD, 1, 2, -1 ]

75: [ ADD, 2, 3, -1 ]

76: [ STX, 0, 2, -1 ]

77: [ ADDI, 0, -1, 1 ]

78: [ SUB, 7, 0, -1 ]

79: [ JMPIG, 6, 7, -1 ]

80: [ STOP, -1, -1, -1 ]

81: [ STOP, -1, -1, -1 ]

82: [ STOP, -1, -1, -1 ]

83: [ STOP, -1, -1, -1 ]

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93: [ STOP, -1, -1, -1 ]

94: [ STOP, -1, -1, -1 ]

95: [ STOP, -1, -1, -1 ]

96: [ \_\_\_, -1, -1, -1 ]

97: [ \_\_\_, -1, -1, -1 ]

98: [ \_\_\_, -1, -1, -1 ]

99: [ \_\_\_, -1, -1, -1 ]

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103: [ \_\_\_, -1, -1, -1 ]

104: [ \_\_\_, -1, -1, -1 ]

105: [ \_\_\_, -1, -1, -1 ]

106: [ \_\_\_, -1, -1, -1 ]

107: [ \_\_\_, -1, -1, -1 ]

108: [ \_\_\_, -1, -1, -1 ]

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110: [ \_\_\_, -1, -1, -1 ]

111: [ \_\_\_, -1, -1, -1 ]

112: [ \_\_\_, -1, -1, -1 ]

113: [ \_\_\_, -1, -1, -1 ]

114: [ \_\_\_, -1, -1, -1 ]

115: [ \_\_\_, -1, -1, -1 ]

116: [ \_\_\_, -1, -1, -1 ]

117: [ \_\_\_, -1, -1, -1 ]

118: [ \_\_\_, -1, -1, -1 ]

119: [ \_\_\_, -1, -1, -1 ]

120: [ \_\_\_, -1, -1, -1 ]

121: [ \_\_\_, -1, -1, -1 ]

122: [ \_\_\_, -1, -1, -1 ]

123: [ \_\_\_, -1, -1, -1 ]

124: [ \_\_\_, -1, -1, -1 ]

125: [ \_\_\_, -1, -1, -1 ]

126: [ \_\_\_, -1, -1, -1 ]

127: [ \_\_\_, -1, -1, -1 ]

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\*\*\*interruptStop\*\*\*

\*\*\*interruptStop\*\*\*

----------------------------- after run all

0: [ LDI, 1, -1, 0 ]

1: [ STD, 1, -1, 20 ]

2: [ LDI, 2, -1, 1 ]

3: [ STD, 2, -1, 21 ]

4: [ LDI, 0, -1, 22 ]

5: [ LDI, 6, -1, 6 ]

6: [ LDI, 7, -1, 31 ]

7: [ LDI, 3, -1, 0 ]

8: [ ADD, 3, 1, -1 ]

9: [ LDI, 1, -1, 0 ]

10: [ ADD, 1, 2, -1 ]

11: [ ADD, 2, 3, -1 ]

12: [ STX, 0, 2, -1 ]

13: [ ADDI, 0, -1, 1 ]

14: [ SUB, 7, 0, -1 ]

15: [ JMPIG, 6, 7, -1 ]

16: [ STOP, -1, -1, -1 ]

17: [ STOP, -1, -1, -1 ]

18: [ STOP, -1, -1, -1 ]

19: [ STOP, -1, -1, -1 ]

20: [ DATA, -1, -1, 0 ]

21: [ DATA, -1, -1, 1 ]

22: [ DATA, -1, -1, 1 ]

23: [ DATA, -1, -1, 2 ]

24: [ DATA, -1, -1, 3 ]

25: [ DATA, -1, -1, 5 ]

26: [ DATA, -1, -1, 8 ]

27: [ DATA, -1, -1, 13 ]

28: [ DATA, -1, -1, 21 ]

29: [ DATA, -1, -1, 34 ]

30: [ DATA, -1, -1, 55 ]

31: [ STOP, -1, -1, -1 ]

32: [ LDI, 1, -1, 0 ]

33: [ STD, 1, -1, 20 ]

34: [ LDI, 2, -1, 1 ]

35: [ STD, 2, -1, 21 ]

36: [ LDI, 0, -1, 22 ]

37: [ LDI, 6, -1, 6 ]

38: [ LDI, 7, -1, 31 ]

39: [ LDI, 3, -1, 0 ]

40: [ ADD, 3, 1, -1 ]

41: [ LDI, 1, -1, 0 ]

42: [ ADD, 1, 2, -1 ]

43: [ ADD, 2, 3, -1 ]

44: [ STX, 0, 2, -1 ]

45: [ ADDI, 0, -1, 1 ]

46: [ SUB, 7, 0, -1 ]

47: [ JMPIG, 6, 7, -1 ]

48: [ STOP, -1, -1, -1 ]

49: [ STOP, -1, -1, -1 ]

50: [ STOP, -1, -1, -1 ]

51: [ STOP, -1, -1, -1 ]

52: [ STOP, -1, -1, -1 ]

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56: [ STOP, -1, -1, -1 ]

57: [ STOP, -1, -1, -1 ]

58: [ STOP, -1, -1, -1 ]

59: [ STOP, -1, -1, -1 ]

60: [ STOP, -1, -1, -1 ]

61: [ STOP, -1, -1, -1 ]

62: [ STOP, -1, -1, -1 ]

63: [ STOP, -1, -1, -1 ]

64: [ LDI, 1, -1, 0 ]

65: [ STD, 1, -1, 20 ]

66: [ LDI, 2, -1, 1 ]

67: [ STD, 2, -1, 21 ]

68: [ LDI, 0, -1, 22 ]

69: [ LDI, 6, -1, 6 ]

70: [ LDI, 7, -1, 31 ]

71: [ LDI, 3, -1, 0 ]

72: [ ADD, 3, 1, -1 ]

73: [ LDI, 1, -1, 0 ]

74: [ ADD, 1, 2, -1 ]

75: [ ADD, 2, 3, -1 ]

76: [ STX, 0, 2, -1 ]

77: [ ADDI, 0, -1, 1 ]

78: [ SUB, 7, 0, -1 ]

79: [ JMPIG, 6, 7, -1 ]

80: [ STOP, -1, -1, -1 ]

81: [ STOP, -1, -1, -1 ]

82: [ STOP, -1, -1, -1 ]

83: [ STOP, -1, -1, -1 ]

84: [ DATA, -1, -1, 0 ]

85: [ DATA, -1, -1, 1 ]

86: [ DATA, -1, -1, 1 ]

87: [ DATA, -1, -1, 2 ]

88: [ DATA, -1, -1, 3 ]

89: [ DATA, -1, -1, 5 ]

90: [ DATA, -1, -1, 8 ]

91: [ DATA, -1, -1, 13 ]

92: [ DATA, -1, -1, 21 ]

93: [ DATA, -1, -1, 34 ]

94: [ DATA, -1, -1, 55 ]

95: [ STOP, -1, -1, -1 ]

96: [ \_\_\_, -1, -1, -1 ]

97: [ \_\_\_, -1, -1, -1 ]

98: [ \_\_\_, -1, -1, -1 ]

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111: [ \_\_\_, -1, -1, -1 ]

112: [ \_\_\_, -1, -1, -1 ]

113: [ \_\_\_, -1, -1, -1 ]

114: [ \_\_\_, -1, -1, -1 ]

115: [ \_\_\_, -1, -1, -1 ]

116: [ \_\_\_, -1, -1, -1 ]

117: [ \_\_\_, -1, -1, -1 ]

118: [ \_\_\_, -1, -1, -1 ]

119: [ \_\_\_, -1, -1, -1 ]

120: [ \_\_\_, -1, -1, -1 ]

121: [ \_\_\_, -1, -1, -1 ]

122: [ \_\_\_, -1, -1, -1 ]

123: [ \_\_\_, -1, -1, -1 ]

124: [ \_\_\_, -1, -1, -1 ]

125: [ \_\_\_, -1, -1, -1 ]

126: [ \_\_\_, -1, -1, -1 ]

127: [ \_\_\_, -1, -1, -1 ]