Lab2a Answers

3. `The sorted array is`

   `1234`

5. Where does SPIM put it? `0x10010000`

   What is the address of variable “msg”? `0x10010010`

   Where is the variable “count”? `0x1001002c`

6. The array starts with the values [5, 7, 4, 3] and after the loop is run, the new array values are [4, 3, 2, 1].

8. The array is being sorted into ascending order.

Array Values:

1. `[4 3 2 1]`
2. `[3 4 2 1]`
3. `[3 2 4 1]`
4. `[3 2 1 4]`
5. `[3 2 1 4]`
6. `[2 3 1 4]`
7. `[2 1 3 4]`
8. `[2 1 3 4]`
9. `[2 1 3 4]`
10. `[1 2 3 4]`
11. `[1 2 3 4]`
12. `[1 2 3 4]`

13. `[1 2 3 4]`

14. `[1 2 3 4]`

15. `[1 2 3 4]`

16. `[1 2 3 4]`

11.

1. [4 7 2 1]
2. [4 7 2 1]
3. [7 2 1]
4. [2 7 1]
5. [2 1 7]
6. [0 1 2 7]

Output to console: `The sorted array is`

`0127`

12. I modified nums to have a total of 8 words 1-8 and count to have 8 instead of 4 to represent the new number of elements

```
numbs:    .word     5, 7, 4, 3, 2 , 1, 6, 8  # Allocate 8 words
msg:    .asciiz "\nThe sorted array is  \n "
count:  .word   8                 # number of elements in the
array
##################################################################
###############
# Begin code.
```

Array Values:

1. [8 7 6 5 4 3 2 1]
2. [7 8 6 5 4 3 2 1]
3. [7 6 8 5 4 3 2 1]
4. [7 6 5 8 4 3 2 1]
5. [7 6 5 4 8 3 2 1]
6. [7 6 5 4 3 8 2 1]
7. [7 6 5 4 3 2 8 1]
8. [7 6 5 4 3 2 1 8]
9. [7 6 5 4 3 2 1 8]
10. [6 7 5 4 3 2 1 8]
11. [6 5 7 4 3 2 1 8]
12. [6 5 4 7 3 2 1 8]
13. [6 5 4 3 7 2 1 8]
14. [6 5 4 3 2 7 1 8]
15. [6 5 4 3 2 1 7 8]
16. [6 5 4 3 2 1 7 8]
17. [6 5 4 3 2 1 7 8]
18. [5 6 4 3 2 1 7 8]
19. [5 4 6 3 2 1 7 8]
20. [5 4 3 6 2 1 7 8]
21. [5 4 3 2 6 1 7 8]
22. [5 4 3 2 1 6 7 8]

23. [5 4 3 2 1 6 7 8]

24. [5 4 3 2 1 6 7 8]

25. [5 4 3 2 1 6 7 8]

26. [4 5 3 2 1 6 7 8]

27. [4 3 5 2 1 6 7 8]

28. [4 3 2 5 1 6 7 8]

29. [4 3 2 1 5 6 7 8]

30. [4 3 2 1 5 6 7 8]

31. [4 3 2 1 5 6 7 8]

32. [4 3 2 1 5 6 7 8]

33. [4 3 2 1 5 6 7 8]

34. [3 4 2 1 5 6 7 8]

35. [3 2 4 1 56 7 8]

36. [3 2 1 4 5 6 7 8]

37. [3 2 1 4 5 6 7 8]

38. [3 2 1 4 5 6 7 8]

39. [3 2 1 4 5 6 7 8]

40. [3 2 1 4 5 6 7 8]

41. [3 2 1 4 5 6 7 8]

42. [2 3 1 4 5 6 7 8]

43. [2 1 3 4 5 6 7 8]

44. [2 1 3 4 5 6 7 8]

45. [2 1 3 4 5 6 7 8]

46. [2 1 3 4 5 6 7 8]

47. [2 1 3 4 5 6 7 8]

48. [2 1 3 4 5 6 7 8]

49. [2 1 3 4 5 6 7 8]

50. [1 2 3 4 5 6 7 8]

51. [1 2 3 4 5 6 7 8]

52. [1 2 3 4 5 6 7 8]

53. [1 2 3 4 5 6 7 8]

54. [1 2 3 4 5 6 7 8]

55. [1 2 3 4 5 6 7 8]

56. [1 2 3 4 5 6 7 8]

57. [1 2 3 4 5 6 7 8]

58. [1 2 3 4 5 6 7 8]

59. [1 2 3 4 5 6 7 8]

60. [1 2 3 4 5 6 7 8]

61. [1 2 3 4 5 6 7 8]

62. [1 2 3 4 5 6 7 8]

63. [1 2 3 4 5 6 7 8]

64. [1 2 3 4 5 6 7 8]

Output to Console: `The sorted array is`

`12345678`