1 **import** java.util.LinkedList;

2 **import** java.util.Collections;

3 **import** java.util.List;

4 **import** java.util.ListIterator;

5

6 **public** **class** LinkedListApp

7 {

8 **public** **static** **void** main(String[] args)

9 {

10 LinkedList <Transcripts> underGrads = **new** LinkedList<Transcripts>();

11 Transcripts t1 = **new** Transcripts("Dana", 3.5, 45);

12 Transcripts t2 = **new** Transcripts("Carol", 3.8, 45);

13 Transcripts t3 = **new** Transcripts("Alice", 1.7, 22);

14 Transcripts t4 = **new** Transcripts("Sam", 2.6, 120);

15

16 underGrads.add(t1); **//Add the transcripts to the list**

17 underGrads.add(t2);

18 underGrads.add(t3);

19 underGrads.add(t4);

20

21 **//Output the transcripts sequentially**

22 System.out.println("\nAll transcripts in order of entry");

23 **for**(**int** i = 0; i < underGrads.size(); i++)

24 {

25 System.out.println(underGrads.get(i));

26 }

27

28 **//The Collections class' sort method**

29 System.out.println("\nAll transcripts in sorted order by GPA");

30 Collections.sort(underGrads);

31 f**o**r(**int** i = 0; i < underGrads.size(); i++)

32 {

33 System.out.println(underGrads.get(i));

34 }

35

36 **//The Collections class' min and max methods**

37 System.out.println("\nHighest GPA is " +

38 Collections.max(underGrads));

39 System.out.println("Lowest GPA is " + Collections.min(underGrads));

40

41 **//The Collection class' replaceAll method**

42 System.out.println("\nAll transcripts replacing "+

43 "Dana's transcript with Carol's transcript");

44 Collections.replaceAll(underGrads,t1, t2);

45 **for**(**int** i = 0; i < 4; i++)

46 {

47 System.out.println(underGrads.get(i));

48 }

49

50 **//The Collections class' binarySearch method**

51 System.out.println("\nt4, Sam, is currently at location " +

52 Collections.binarySearch(underGrads, t4));

53

54 **//Use of an iterator**

55 System.out.println("\nAll transcripts output using an iterator " +

56 "after locations 0 and 3 were swapped");

57 Collections.swap(underGrads,0, 3);

58 ListIterator <Transcripts> anIterator = underGrads.listIterator(0);

59 **while** (anIterator.hasNext())

60 {

61 System.out.println(anIterator.next());

62 }

63 }

64}

**Figure 13.26 The application LinkedListApp.**