|  |  |  |
| --- | --- | --- |
| [Illinois Institute of Technology](http://iit.edu/)   |  |  | | --- | --- | | [**Illinois TechTab 1 of 2 (active tab)**](https://blackboard-v9-p.iit.edu/webapps/portal/execute/tabs/tabAction?tab_tab_group_id=_1_1) | [Student](https://blackboard-v9-p.iit.edu/webapps/portal/execute/tabs/tabAction?tab_tab_group_id=_71_1) | |

1. [**15803.201710ITMD-411-01.16F: Intermediate Software Devlpmnt**](https://blackboard-v9-p.iit.edu/webapps/blackboard/execute/courseMain?course_id=_53899_1)

**[https://blackboard-v9-p.iit.edu/images/ci/icons/cmlink_generic.gif](https://blackboard-v9-p.iit.edu/webapps/assessment/take/launch.jsp?course_assessment_id=_15780_1&course_id=_53899_1&content_id=_460608_1&step=null#contextMenu)**

1. [Quizzes](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/listContent.jsp?course_id=_53899_1&content_id=_436276_1&mode=reset)

1. **Take Test: Quiz 3**

[Hide Course Menu](https://blackboard-v9-p.iit.edu/webapps/assessment/take/launch.jsp?course_assessment_id=_15780_1&course_id=_53899_1&content_id=_460608_1&step=null)

* [Refresh](https://blackboard-v9-p.iit.edu/webapps/assessment/take/launch.jsp?course_assessment_id=_15780_1&course_id=_53899_1&content_id=_460608_1&step=null)
* [Display Course Menu in a Window](https://blackboard-v9-p.iit.edu/webapps/assessment/take/launch.jsp?course_assessment_id=_15780_1&course_id=_53899_1&content_id=_460608_1&step=null)

[**15803.201710 (ITMD-411-01.16F: Intermediate Software Devlpmnt)**](https://blackboard-v9-p.iit.edu/webapps/assessment/take/launch.jsp?course_assessment_id=_15780_1&course_id=_53899_1&content_id=_460608_1&step=null)

**[Course Entry Page](https://blackboard-v9-p.iit.edu/webapps/blackboard/execute/courseMain?course_id=_53899_1)**

* [Course Console](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/launchLink.jsp?course_id=_53899_1&toc_id=_429361_1&mode=view&mode=reset)
* [Overview & Syllabus](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/listContent.jsp?course_id=_53899_1&content_id=_410279_1&mode=reset)
* [Class Notes](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/listContent.jsp?course_id=_53899_1&content_id=_410281_1&mode=reset)
* [Discussions](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/launchLink.jsp?course_id=_53899_1&tool_id=_142_1&tool_type=TOOL&mode=view&mode=reset)
* [Demos](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/listContent.jsp?course_id=_53899_1&content_id=_431417_1&mode=reset)
* [Exams](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/listContent.jsp?course_id=_53899_1&content_id=_444209_1&mode=reset)
* [Links](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/listContent.jsp?course_id=_53899_1&content_id=_434378_1&mode=reset)
* [Labs](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/listContent.jsp?course_id=_53899_1&content_id=_431416_1&mode=reset)
* [Powerpoints](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/listContent.jsp?course_id=_53899_1&content_id=_434368_1&mode=reset)
* [Reviews](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/listContent.jsp?course_id=_53899_1&content_id=_431415_1&mode=reset)
* [Reading Suggestions](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/listContent.jsp?course_id=_53899_1&content_id=_441463_1&mode=reset)
* [Quizzes](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/listContent.jsp?course_id=_53899_1&content_id=_436276_1&mode=reset)
* [Source Code](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/listContent.jsp?course_id=_53899_1&content_id=_434367_1&mode=reset)
* [Email](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/launchLink.jsp?course_id=_53899_1&tool_id=_135_1&tool_type=TOOL&mode=view&mode=reset)
* [My Grades](https://blackboard-v9-p.iit.edu/webapps/blackboard/content/launchLink.jsp?course_id=_53899_1&tool_id=_156_1&tool_type=TOOL&mode=view&mode=reset)
* [IIT Online Videos](https://media.iitonline.iit.edu/lectures/F16_ITMD-411-0_btAa7CXad7XTJC36WGvSwmHGgrMHcSEVfpCNsyav/index.html)
* [Help](http://online.iit.edu/help)
* [Galvin Library Resources](http://library.iit.edu/blackboard/)
* [Code of Academic Honesty](https://web.iit.edu/student-affairs/handbook/fine-print/code-academic-honesty)

**Take Test: Quiz 3**

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[**[https://blackboard-v9-p.iit.edu/images/spacer.gif](https://blackboard-v9-p.iit.edu/webapps/assessment/take/launch.jsp?course_assessment_id=_15780_1&course_id=_53899_1&content_id=_460608_1&step=null)Test Information**](https://blackboard-v9-p.iit.edu/webapps/assessment/take/launch.jsp?course_assessment_id=_15780_1&course_id=_53899_1&content_id=_460608_1&step=null)

|  |  |
| --- | --- |
| Description |  |
| Instructions |  |
| Timed Test | This test has a time limit of 1 hour and 30 minutes.This test will save and submit automatically when the time expires. Warnings appear when **half the time**, **5 minutes**, **1 minute**, and **30 seconds** remain. |
| Multiple Attempts | This test allows 2 attempts. This is attempt number 1. |
| Force Completion | This test can be saved and resumed at any point until time has expired. The timer will continue to run if you leave the test. |

**Remaining Time:**

**45 minutes, 07 seconds.**

**Expand Question Completion Status:**



**QUESTION 1**

1. Which of the following is true?

|  |  |  |
| --- | --- | --- |
|  |  | A set allows duplicate values to be stored |
|  |  | A map allows duplicate keys to be stored |
|  |  | No Java collection allows duplicate values to be stored |
|  |  | **A list allows duplicate values to be stored** |

**3 points**

**QUESTION 2**

1. Which of the following is true?

|  |  |  |
| --- | --- | --- |
|  |  | **Both the Set and List interfaces extend the Collection interface** |
|  |  | Both the Set and Map interfaces extend the Collection interface |
|  |  | Both the List and Map interfaces extend the Collection interface |
|  |  | None of the above |

**3 points**

**QUESTION 3**

1. An object that is used to retrieve objects from a collection is called

|  |  |  |
| --- | --- | --- |
|  |  | **an iterator** |
|  |  | a collector |
|  |  | an accessor |
|  |  | All of the above |

**3 points**

**QUESTION 4**

1. Comparator

|  |  |  |
| --- | --- | --- |
|  |  | specifies a single method, compareTo (Not this answer) |
|  |  | **specifies three methods,  compareTo, compare, and equals** |
|  |  | specifies two methods, compare and equals |
|  |  | specifies two methods, compare and compareTo |

**3 points**

**QUESTION 5**

1. A list in which each stored element is associated with a reference to its successor is called

|  |  |  |
| --- | --- | --- |
|  |  | an array list |
|  |  | a map |
|  |  | **a linked list** |
|  |  | None of the above Answer: |

**3 points**

**QUESTION 6**

1. A linked list is represented by a reference to

|  |  |  |
| --- | --- | --- |
|  |  | **the first node in the list, unless the list is empty, in which case the reference is set to null** |
|  |  | to the list representation object, which contains a boolean flag set to false when the list is empty |
|  |  | the superclass of the list |
|  |  | None of the above answers |

**3 points**

**QUESTION 7**

1. Node class for a linked list that can hold elements of type Object can be declared to have fields

|  |  |  |
| --- | --- | --- |
|  |  | Object element; |
|  |  | **Object element; Node next;** |
|  |  | Object element; Node \*next; |
|  |  | Object element; next element; |

**3 points**

**QUESTION 8**

1. A systematic procedure for starting at the first node in a list, and visiting all nodes in the list by going from each node to its successor is called

|  |  |  |
| --- | --- | --- |
|  |  | a sweep |
|  |  | **a traversal** |
|  |  | travelling over the list (Not this answer) |
|  |  | All of the above |

**3 points**

**QUESTION 9**

1. A doubly linked list makes it easy to

|  |  |  |
| --- | --- | --- |
|  |  | **move from any node to its successor, and from any node to its predecessor** |
|  |  | skip two nodes at a time when moving forward through the list |
|  |  | skip two nodes at a time when moving backward through the list |
|  |  | to create a second copy of the linked list |

**3 points**

**QUESTION 10 (Not the last answer)**

1. A linked list class uses a Node class with successor reference next and field element to store values. It uses a reference first to point to the first node of the list. Code to print all elements stored in the list can be written as

|  |  |  |
| --- | --- | --- |
|  |  | System.out.print(first); |
|  |  | **Node p = first;  while (p != null)  {     System.out.println(p.element);     p = p.next;  }** |
|  |  | Node p  = first;  while (p != null)     System.out.println(p.next); |
|  |  | Node p = first;  for (p!= null)  {     System.out.println(p.element);    p++;  } |

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