**University - Requirement 5**

**Requirement 5:**  
  
In this requirement, you need to sort the list of colleges based on name, startingDate or numberOfDept.   
  
a) Create a Class College with the following attributes:

|  |  |
| --- | --- |
| **Member Field Name** | **Type** |
| name | String |
| website | String |
| mobile | String |
| founder | String |
| numberOfDept | Integer |
| location | String |
| startingDate | java.util.Date |

Mark all the attributes as private, Create / Generate appropriate Getters & Setters, Add a default constructor and a parameterized constructor to take in all attributes in the given order: **College(String name, String website, String mobile,String founder, Integer numberOfDept, String location,Date startingDate)**

b) Create the following static methods in the College class,

|  |  |
| --- | --- |
| **Method Name** | **Description** |
| static College createCollege(String detail) | This method accepts a String. The college detail separated by commas is passed as the argument. Split the details and create a college object and return it. |

The college details should be given as a comma-separated value in the below order,  
name, website, mobile, founder, numberOfDept, location, startingDate  
  
c) The College class should implement the **Comparable** interface which sorts the College list based on name attributes. While comparing, all the name attributes in the list are unique [Case Sensitive. Uppercase letters followed Lowercase].  
  
d) Create a class **StartingDateComparator** which implements Comparator interface and sorts the College list based on startingDate. While comparing, all the startingDate attributes in the list are unique.

e) Create a class **DepartmentComparator** which implements Comparator interface and sorts the College list based on the numberOfDept.While comparing, all the numberOfDept attributes in the list are unique.  
  
Get the number of College and College details and create a College list. Sort the College according to the given option and display the list.  
  
When the “college” object is printed, it should display the following details  
Print format:  
**System.out.format("%-15s %-20s %-15s %-15s %-20s %-15s %s\n", "Name","Website","Mobile","Founder","No of departments","Location","Starting date");**  
  
**Sample Input and Output 1:**

Enter the number of the colleges:

**4**

**IIT Guwahati,www.iitg.ac.in/,9876543214,Govt of India,10,Guwahati,17-05-1994**

**VIT,www.vit.ac.in/,9876543217,Viswanathan,13,Vellore,10-06-1984**

**IIT Roorkee,www.iitr.ac.in/,9876543215,Govt of India,8,Roorkee,22-05-2001**

**BITS,www.bits.ac.in/,9876543218,Das Birla,12,Pilani,11-06-1964**

Enter a type to sort:

1.Sort by name

2.Sort by number of departments

3.Sort by starting date

**1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name | Website | Mobile | Founder | No of departments | Location | Starting date |
| BITS | www.bits.ac.in/ | 9876543218 | Das Birla | 12 | Pilani | 11-06-1964 |
| IIT Guwahati | www.iitg.ac.in/ | 9876543214 | Govt of India | 10 | Guwahati | 17-05-1994 |
| IIT Roorkee | www.iitr.ac.in/ | 9876543215 | Govt of India | 8 | Roorkee | 22-05-2001 |
| VIT | www.vit.ac.in/ | 9876543217 | Viswanathan | 13 | Vellore | 10-06-1984 |

**Sample Input and Output 2:**

Enter the number of the colleges:

**4**

**IIT Guwahati,www.iitg.ac.in/,9876543214,Govt of India,10,Guwahati,17-05-1994**

**VIT,www.vit.ac.in/,9876543217,Viswanathan,13,Vellore,10-06-1984**

**IIT Roorkee,www.iitr.ac.in/,9876543215,Govt of India,8,Roorkee,22-05-2001**

**BITS,www.bits.ac.in/,9876543218,Das Birla,12,Pilani,11-06-1964**

Enter a type to sort:

1.Sort by name

2.Sort by number of departments

3.Sort by starting date

**2**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name | Website | Mobile | Founder | No of departments | Location | Starting date |
| IIT Roorkee | www.iitr.ac.in/ | 9876543215 | Govt of India | 8 | Roorkee | 22-05-2001 |
| IIT Guwahati | www.iitg.ac.in/ | 9876543214 | Govt of India | 10 | Guwahati | 17-05-1994 |
| BITS | www.bits.ac.in/ | 9876543218 | Das Birla | 12 | Pilani | 11-06-1964 |
| VIT | www.vit.ac.in/ | 9876543217 | Viswanathan | 13 | Vellore | 10-06-1984 |

**Sample Input and Output 3:**

Enter the number of the colleges:

**4**

**IIT Guwahati,www.iitg.ac.in/,9876543214,Govt of India,10,Guwahati,17-05-1994**

**VIT,www.vit.ac.in/,9876543217,Viswanathan,13,Vellore,10-06-1984**

**IIT Roorkee,www.iitr.ac.in/,9876543215,Govt of India,8,Roorkee,22-05-2001**

**BITS,www.bits.ac.in/,9876543218,Das Birla,12,Pilani,11-06-1964**

Enter a type to sort:

1.Sort by name

2.Sort by number of departments

3.Sort by starting date

**3**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name | Website | Mobile | Founder | No of departments | Location | Starting date |
| BITS | www.bits.ac.in/ | 9876543218 | Das Birla | 12 | Pilani | 11-06-1964 |
| VIT | www.vit.ac.in/ | 9876543217 | Viswanathan | 13 | Vellore | 10-06-1984 |
| IIT Guwahati | www.iitg.ac.in/ | 9876543214 | Govt of India | 10 | Guwahati | 17-05-1994 |
| IIT Roorkee | www.iitr.ac.in/ | 9876543215 | Govt of India | 8 | Roorkee | 22-05-2001 |

**Test Cases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [Assign Groups](https://cognizant.e-box.co.in/problem/showTestcaseGroup/8266)   | **SNo** | **Name** | **Input** | **Output** | **Purpose** | **Sample** | | --- | --- | --- | --- | --- | --- | | 1 | s9 | 5 IIT Madras,www.iitm.ac.in/,9876543210,Govt of India,15,Chennai,30-05-2018 IIT Bombay,www.iitb.ac.in/,9876543211,Govt of India,16,Mumbai,20-05-2018 NIT Trichy,www.nitt.edu/,9876543216,Govt of India,11,Trichy,01-07-2018 VIT,www.vit.ac.in/,9876543217,Viswanathan,13,Vellore,10-06-2018 BITS,www.bits.ac.in/,9876543218,Das Birla,12,Pilani,11-06-2018 3 | Enter the number of the colleges: Enter a type to sort: 1.Sort by name 2.Sort by number of departments 3.Sort by starting date Name            Website              Mobile          Founder         No of departments    Location        Starting date IIT Bombay      www.iitb.ac.in/      9876543211      Govt of India   16                   Mumbai          20-05-2018 IIT Madras      www.iitm.ac.in/      9876543210      Govt of India   15                   Chennai         30-05-2018 VIT             www.vit.ac.in/       9876543217      Viswanathan     13                   Vellore         10-06-2018 BITS            www.bits.ac.in/      9876543218      Das Birla       12                   Pilani          11-06-2018 NIT Trichy      www.nitt.edu/        9876543216      Govt of India   11                   Trichy          01-07-2018 | General |  | | 2 | s5 | 4 IIT Madras,www.iitm.ac.in/,9876543210,Govt of India,15,Chennai,30-05-2018 IIT Bombay,www.iitb.ac.in/,9876543211,Govt of India,16,Mumbai,20-05-2018 IIT kharagpur,www.iitkgp.ac.in/,9876543212,Govt of India,20,Kharagpur,21-05-2018 IIT Delhi,www.iitd.ac.in/,9876543213,Govt of India,14,Delhi,15-05-2018 2 | Enter the number of the colleges: Enter a type to sort: 1.Sort by name 2.Sort by number of departments 3.Sort by starting date Name            Website              Mobile          Founder         No of departments    Location        Starting date IIT Delhi       www.iitd.ac.in/      9876543213      Govt of India   14                   Delhi           15-05-2018 IIT Madras      www.iitm.ac.in/      9876543210      Govt of India   15                   Chennai         30-05-2018 IIT Bombay      www.iitb.ac.in/      9876543211      Govt of India   16                   Mumbai          20-05-2018 IIT kharagpur   www.iitkgp.ac.in/    9876543212      Govt of India   20                   Kharagpur       21-05-2018 | General |  | | 3 | s2 | 4 IIT Guwahati,www.iitg.ac.in/,9876543214,Govt of India,10,Guwahati,17-05-1994 VIT,www.vit.ac.in/,9876543217,Viswanathan,13,Vellore,10-06-1984 IIT Roorkee,www.iitr.ac.in/,9876543215,Govt of India,8,Roorkee,22-05-2001 BITS,www.bits.ac.in/,9876543218,Das Birla,12,Pilani,11-06-1964 2 | Enter the number of the colleges: Enter a type to sort: 1.Sort by name 2.Sort by number of departments 3.Sort by starting date Name            Website              Mobile          Founder         No of departments    Location        Starting date IIT Roorkee     www.iitr.ac.in/      9876543215      Govt of India   8                    Roorkee         22-05-2001 IIT Guwahati    www.iitg.ac.in/      9876543214      Govt of India   10                   Guwahati        17-05-1994 BITS            www.bits.ac.in/      9876543218      Das Birla       12                   Pilani          11-06-1964 VIT             www.vit.ac.in/       9876543217      Viswanathan     13                   Vellore         10-06-1984 | General |  | | 4 | s8 | 5 IIT Madras,www.iitm.ac.in/,9876543210,Govt of India,15,Chennai,30-05-2018 IIT Bombay,www.iitb.ac.in/,9876543211,Govt of India,16,Mumbai,20-05-2018 NIT Trichy,www.nitt.edu/,9876543216,Govt of India,11,Trichy,01-07-2018 VIT,www.vit.ac.in/,9876543217,Viswanathan,13,Vellore,10-06-2018 BITS,www.bits.ac.in/,9876543218,Das Birla,12,Pilani,11-06-2018 2 | Enter the number of the colleges: Enter a type to sort: 1.Sort by name 2.Sort by number of departments 3.Sort by starting date Name            Website              Mobile          Founder         No of departments    Location        Starting date NIT Trichy      www.nitt.edu/        9876543216      Govt of India   11                   Trichy          01-07-2018 BITS            www.bits.ac.in/      9876543218      Das Birla       12                   Pilani          11-06-2018 VIT             www.vit.ac.in/       9876543217      Viswanathan     13                   Vellore         10-06-2018 IIT Madras      www.iitm.ac.in/      9876543210      Govt of India   15                   Chennai         30-05-2018 IIT Bombay      www.iitb.ac.in/      9876543211      Govt of India   16                   Mumbai          20-05-2018 | General |  | | 5 | s7 | 5 IIT Madras,www.iitm.ac.in/,9876543210,Govt of India,15,Chennai,30-05-2018 IIT Bombay,www.iitb.ac.in/,9876543211,Govt of India,16,Mumbai,20-05-2018 NIT Trichy,www.nitt.edu/,9876543216,Govt of India,11,Trichy,01-07-2018 VIT,www.vit.ac.in/,9876543217,Viswanathan,13,Vellore,10-06-2018 BITS,www.bits.ac.in/,9876543218,Das Birla,12,Pilani,11-06-2018 1 | Enter the number of the colleges: Enter a type to sort: 1.Sort by name 2.Sort by number of departments 3.Sort by starting date Name            Website              Mobile          Founder         No of departments    Location        Starting date BITS            www.bits.ac.in/      9876543218      Das Birla       12                   Pilani          11-06-2018 IIT Bombay      www.iitb.ac.in/      9876543211      Govt of India   16                   Mumbai          20-05-2018 IIT Madras      www.iitm.ac.in/      9876543210      Govt of India   15                   Chennai         30-05-2018 NIT Trichy      www.nitt.edu/        9876543216      Govt of India   11                   Trichy          01-07-2018 VIT             www.vit.ac.in/       9876543217      Viswanathan     13                   Vellore         10-06-2018 | General |  | | 6 | s1 | 4 IIT Guwahati,www.iitg.ac.in/,9876543214,Govt of India,10,Guwahati,17-05-1994 VIT,www.vit.ac.in/,9876543217,Viswanathan,13,Vellore,10-06-1984 IIT Roorkee,www.iitr.ac.in/,9876543215,Govt of India,8,Roorkee,22-05-2001 BITS,www.bits.ac.in/,9876543218,Das Birla,12,Pilani,11-06-1964 1 | Enter the number of the colleges: Enter a type to sort: 1.Sort by name 2.Sort by number of departments 3.Sort by starting date Name            Website              Mobile          Founder         No of departments    Location        Starting date BITS            www.bits.ac.in/      9876543218      Das Birla       12                   Pilani          11-06-1964 IIT Guwahati    www.iitg.ac.in/      9876543214      Govt of India   10                   Guwahati        17-05-1994 IIT Roorkee     www.iitr.ac.in/      9876543215      Govt of India   8                    Roorkee         22-05-2001 VIT             www.vit.ac.in/       9876543217      Viswanathan     13                   Vellore         10-06-1984 | General |  | | 7 | s4 | 4 IIT Madras,www.iitm.ac.in/,9876543210,Govt of India,15,Chennai,30-05-2018 IIT Bombay,www.iitb.ac.in/,9876543211,Govt of India,16,Mumbai,20-05-2018 IIT kharagpur,www.iitkgp.ac.in/,9876543212,Govt of India,20,Kharagpur,21-05-2018 IIT Delhi,www.iitd.ac.in/,9876543213,Govt of India,14,Delhi,15-05-2018 1 | Enter the number of the colleges: Enter a type to sort: 1.Sort by name 2.Sort by number of departments 3.Sort by starting date Name            Website              Mobile          Founder         No of departments    Location        Starting date IIT Bombay      www.iitb.ac.in/      9876543211      Govt of India   16                   Mumbai          20-05-2018 IIT Delhi       www.iitd.ac.in/      9876543213      Govt of India   14                   Delhi           15-05-2018 IIT Madras      www.iitm.ac.in/      9876543210      Govt of India   15                   Chennai         30-05-2018 IIT kharagpur   www.iitkgp.ac.in/    9876543212      Govt of India   20                   Kharagpur       21-05-2018 | General |  | | 8 | s6 | 4 IIT Madras,www.iitm.ac.in/,9876543210,Govt of India,15,Chennai,30-05-2018 IIT Bombay,www.iitb.ac.in/,9876543211,Govt of India,16,Mumbai,20-05-2018 IIT kharagpur,www.iitkgp.ac.in/,9876543212,Govt of India,20,Kharagpur,21-05-2018 IIT Delhi,www.iitd.ac.in/,9876543213,Govt of India,14,Delhi,15-05-2018 3 | Enter the number of the colleges: Enter a type to sort: 1.Sort by name 2.Sort by number of departments 3.Sort by starting date Name            Website              Mobile          Founder         No of departments    Location        Starting date IIT Delhi       www.iitd.ac.in/      9876543213      Govt of India   14                   Delhi           15-05-2018 IIT Bombay      www.iitb.ac.in/      9876543211      Govt of India   16                   Mumbai          20-05-2018 IIT kharagpur   www.iitkgp.ac.in/    9876543212      Govt of India   20                   Kharagpur       21-05-2018 IIT Madras      www.iitm.ac.in/      9876543210      Govt of India   15                   Chennai         30-05-2018 | General |  | | 9 | s3 | 4 IIT Guwahati,www.iitg.ac.in/,9876543214,Govt of India,10,Guwahati,17-05-1994 VIT,www.vit.ac.in/,9876543217,Viswanathan,13,Vellore,10-06-1984 IIT Roorkee,www.iitr.ac.in/,9876543215,Govt of India,8,Roorkee,22-05-2001 BITS,www.bits.ac.in/,9876543218,Das Birla,12,Pilani,11-06-1964 3 | Enter the number of the colleges: Enter a type to sort: 1.Sort by name 2.Sort by number of departments 3.Sort by starting date Name            Website              Mobile          Founder         No of departments    Location        Starting date BITS            www.bits.ac.in/      9876543218      Das Birla       12                   Pilani          11-06-1964 VIT             www.vit.ac.in/       9876543217      Viswanathan     13                   Vellore         10-06-1984 IIT Guwahati    www.iitg.ac.in/      9876543214      Govt of India   10                   Guwahati        17-05-1994 IIT Roorkee     www.iitr.ac.in/      9876543215      Govt of India   8                    Roorkee         22-05-2001 | General |  | |