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| **TEST PLAN** | | | | | |
| **Test** | **Method tested** | **Expected Value** | **Actual Value** | **Reason for difference** | **Reason for test** |
| Date (4,18,1908) | countLeaps() | 36 | 36 | N/A | Test that isLeapYear() is working correctly. |
| Date (31,12,2017) | Tomorrow() | Monday, January 1, 2018 | Monday, January 1, 2018 | N/a | Test tomorrow() correctly resets month and day and adds year |
| Date( 1,1,2017) | Date constructor | Sunday, January 1, 2017  DayOfYear =0 | Sunday, January 1, 2017  DayOfYear =0 | N/A | Check that dayofYear and day of week work correctly. |
| Date( 1,1,2017) | Yesterday() | Saturday,  December 31, 2016 | Saturday,  December 31, 2016 | N/A | Test that Yesterday() resets month and day and subtract year |
| Input Date:  20 | DATE:: Input() | Thursday, April 20, 2017 | Thursday, April 20, 2017 | N/A | Test that I can just enter day |
| Input Date:  20/9 | DATE::Input() | Wednesday, September 20, 2017 | Wednesday, September 20, 2017 | n/a | Test I can enter day and month |
| Input Date:  39 | Date::Input() | Thursday, April 20, 2017 | Thursday, April 20, 2017 | n/a | Test that out of range days will default current day |
| Input Date:  30/97 | Date::Input() | Sunday, April 30, 2017 | Sunday, April 30, 2017 | N/A | Test that out of range months will default to current month |
| Input Time:3 | CTime::input() | 3:0:0 | 3:0:0 | N/A | Check I can enter just hour |
| Input Time: 3:33 | CTime::input() | 3:33:0 | 3:33:0 | N/A | Enter just hour and minutes |
| Input Time: 3:64:22 | CTime::input() | 3:0:22 | 3:0:22 | n/a | Check out of bounds default to zero. |
| Input time: lsk | CTime::input() | 0:0:0 | 0:0:0 | n/a | Check bad input does not break program. |
| Input Date Time:  1/1/2017 | DateTime::input() |  |  |  | Check you can enter just date for dateTime |
| Array List DateTimes:  1/1/2017 3:33:33  1/1/2017 1:30:33  1/1/2017 3:33:33 | quicksort  CTime comparisons | 1: Sunday, January 1, 2017 1:30:33  2: Sunday, January 1, 2017 2:30:30  3: Sunday, January 1, 2017 3:33:33 | 1: Sunday, January 1, 2017 1:30:33  2: Sunday, January 1, 2017 2:30:30  3: Sunday, January 1, 2017 3:33:33 | n/a | Check times specific sort |
| Array List DateTimes:  1) 20/9/1983 5:32:01  2) 17/4/1998 20:32:12  3) 30/7/2001 2:32:2  4) 17/4/1998 10:30:21  5) 5/2/2001 12:31:58  6) 28/4/2017 8:30:13 | quicksort  CTime comparisons  CDate comparisons | 1: Tuesday, September 20, 1983 5:32:1  2: Monday, July 30, 2001 2:32:2  3: Friday, April 17, 1998 10:30:21  4: Friday, April 17, 1998 20:32:12  5: Monday, February 5, 2001 12:31:58  6: Friday, April 28, 2017 8:30:13 | 1: Tuesday, September 20, 1983 5:32:1  2: Monday, July 30, 2001 2:32:2  3: Friday, April 17, 1998 10:30:21  4: Friday, April 17, 1998 20:32:12  5: Monday, February 5, 2001 12:31:58  6: Friday, April 28, 2017 8:30:13 | n/a | Check quicksort recursion with list larger than 4 |
| 1) 3  2) 2  3) 6  4) 8  5) 2  6) 6  7) 9  8) 1 | Quicksort  partition  CTime comparisons  CDate comparisons | 1: Monday, May 1, 2017 22:40:36  2: Tuesday, May 2, 2017 22:40:30  3: Tuesday, May 2, 2017 22:40:32  4: Wednesday, May 3, 2017 22:40:30  5: Saturday, May 6, 2017 22:40:31  6: Saturday, May 6, 2017 22:40:33  7: Monday, May 8, 2017 22:40:32  8: Tuesday, May 9, 2017 22:40:35 | 1: Monday, May 1, 2017 22:40:36  2: Tuesday, May 2, 2017 22:40:30  3: Tuesday, May 2, 2017 22:40:32  4: Wednesday, May 3, 2017 22:40:30  5: Saturday, May 6, 2017 22:40:31  6: Saturday, May 6, 2017 22:40:33  7: Monday, May 8, 2017 22:40:32  8: Tuesday, May 9, 2017 22:40:35 | n/a | Check sorting after partition revision |
| 1) 9  2) 2  3) 3  4) 9  5) 2  6) 1  7) 7  8) 8 | Quicksort  partition  CTime comparisons  CDate comparisons | 1: Monday, May 1, 2017  2: Tuesday, May 2, 2017  3: Tuesday, May 2, 2017  4: Wednesday, May 3, 2017  5: Sunday, May 7, 2017  6: Monday, May 8, 2017  7: Tuesday, May 9, 2017  8: Tuesday, May 9, 2017 | 1: Monday, May 1, 2017  2: Tuesday, May 2, 2017  3: Tuesday, May 2, 2017  4: Wednesday, May 3, 2017  5: Sunday, May 7, 2017  6: Monday, May 8, 2017  7: Tuesday, May 9, 2017  8: Tuesday, May 9, 2017 | n/a | Check sorting after partition revision |
| 1) 1  2) 3  3) 9  4) 4  5) 6  6) 8  7) 5  8) 2  9) 9  10) 13 | Quicksort  partition  CTime comparisons  CDate comparisons | 1: Monday, May 1, 2017 22:44:56  2: Tuesday, May 2, 2017 22:45:5  3: Wednesday, May 3, 2017 22:44:59  4: Thursday, May 4, 2017 22:45:1  5: Friday, May 5, 2017 22:45:3  6: Saturday, May 6, 2017 22:45:1  7: Monday, May 8, 2017 22:45:2  8: Tuesday, May 9, 2017 22:45:0  9: Tuesday, May 9, 2017 22:45:7  10: Saturday, May 13, 2017 22:45:8 | 1: Monday, May 1, 2017 22:44:56  2: Tuesday, May 2, 2017 22:45:5  3: Wednesday, May 3, 2017 22:44:59  4: Thursday, May 4, 2017 22:45:1  5: Friday, May 5, 2017 22:45:3  6: Saturday, May 6, 2017 22:45:1  7: Monday, May 8, 2017 22:45:2  8: Tuesday, May 9, 2017 22:45:0  9: Tuesday, May 9, 2017 22:45:7  10: Saturday, May 13, 2017 22:45:8 | n/a | Check sorting after partition revision |

OUTPUT SAMPLE:

