

# CS21: INTRODUCTION TO COMPUTER SCIENCE

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Fall 2017

Swarthmore College

# Outline Oct 27:

*Pick up a feedback form!*

- Try/except
- Writing files + list-of-lists (LOLs) + nested loops
- TDD: Top Down Design: tic-tac-toe
- Mid-semester evaluation
- Next week: continue TDD and bottom-up implementation

## Notes

- **Lab 6** due **Saturday** night
- Office Hours **today!! Friday 3-5pm**

Practice reading files

# Practice reading files: iTunes example

- My iTunes library is in the practice folder: `itunes_music.txt`
- "Name", "Artist", "Album", "Time", "Plays", "Last Played"
- Questions about this file: `itunes_file.py`

- 1) What is the top most played song in the library, based on the "Plays" column?
- 2) How many songs have I never played?
- 3) What is the longest song in my library?
- 4) What is the most recent song I played?
- 5) Sort the songs into artists and/or albums (list-of-lists).
- 6) What are my top 25 most played songs? (CHALLENGE)

100 Years, Five for Fighting, 100 Years - Single, 244, 25, 4/10/16; 2:52 PM  
 1000 Miles Per Hour, OK Go, OK Go, 213,,  
 1000 Ships of the Underworld, Two Steps From Hell, Invincible, 100, 37, 4/22/17; 2:30 PM  
 11 mai 1429: Le roi rencontre la Pucelle à Loches, Jordi Savall, Jeanne d'Arc - Batailles & Prisons, 42, 1, 11/9/13; 11:29 AM  
 11:11 P.M., All-American Rejects, Move Along, 184, 1, 10/21/09; 10:55 AM  
 12.23.95, Jimmy Eat World, Clarity, 224,,  
 1234-007, DDR, DDR, 89, 2, 4/11/14; 2:59 PM  
 16 Military Wives, The Decemberists, Picaresque, 292, 20, 7/24/14; 2:21 PM  
 17 juillet 1429: La Route du Sacre, Jordi Savall, Jeanne d'Arc - Batailles & Prisons, 111,,  
 18 juin 1429: Bataille de Patay, Jordi Savall, Jeanne d'Arc - Batailles & Prisons, 57,,  
 19-2000, Gorillaz,, 207, 47, 7/29/14; 9:00 PM  
 20th Century Towers, Death Cab For Cutie, The Photo Album Bonus Cd, 276, 2, 10/28/09; 8:10 PM  
 21 Octobre 1422: Mort de Charles VI, Jordi Savall, Jeanne d'Arc - Batailles & Prisons, 104,,  
 21 and invincible, Something Corporate, North, 198, 87, 4/22/11; 8:02 AM  
 21 mai 1420: Le Traité de Troyes, Jordi Savall, Jeanne d'Arc - Batailles & Prisons, 167,,  
 23, Jimmy Eat World, Futures, 443, 15, 7/28/17; 6:59 PM  
 29 avril 1429: La Délivrance d'Orléans, Jordi Savall, Jeanne d'Arc - Batailles & Prisons, 180,,  
 29 juin 1429: Départ de Gien pour débiter la marche à Reims, Jordi Savall, Jeanne d'Arc - Batailles & Prisons, 117,,  
 405, Death Cab for Cutie, We Have the Facts and We're Voting Yes, 217, 2, 7/29/14; 7:30 PM  
 409 (1962), Beach Boys, The Beach Boys: 1962-1967, 119, 9, 9/24/11; 5:07 PM  
 6 Inch (feat. The Weeknd), Beyoncé, Lemonade, 260, 5, 7/4/17; 9:49 AM  
 99 Luftballons, Nena, 99 Luftballons, 232, 40, 11/25/14; 10:16 PM  
 A Boy Like That, Selena, Selena, 353,,  
 A Cautionary Song, Decemberists, Castaways and Cutouts, 188, 1, 10/5/13; 5:22 PM  
 A Dios Le Pido, Juanes, Un Día Normal, 208, 3, 6/19/14; 3:46 PM  
 A Dustland Fairytale, The Killers, Day & Age, 225, 31, 8/15/16; 5:34 PM  
 A Girl Can Dream, P.Y.T., Center Stage, 249, 4, 5/18/10; 2:21 PM  
 A Girl Worth Fighting For, Matthew Wilder, Mulan, 146,,  
 A Good Idea at the Time, OK Go, Oh No, 194,,  
 A Hard Day's Night, The Beatles, A Hard Day's Night, 153, 7, 9/1/13; 9:39 PM  
 A Lack of Color, Death Cab for Cutie, Transatlanticism, 215, 5, 7/29/14; 4:56 PM  
 A Long December, Counting Crows, Films About Ghosts: The Best Of Counting Crows, 298,,  
 A Message, Coldplay, X&Y, 285, 73, 7/14/13; 2:28 PM  
 A Million Ways, OK Go, Oh No, 193,,  
 A Miracle Would Happen/When You Come Home to Me,, The Last Five Years, 326, 1, 6/24/14; 8:43 PM  
 A Movie Script Ending, Death Cab for Cutie, The Photo Album, 259, 1, 7/28/09; 4:32 PM  
 A New Life,, Jackle and Hyde, 266,,  
 A Praise Chorus, Jimmy Eat World, Bleed American, 243, 137, 9/17/15; 4:58 PM  
 A Rush Of Blood To The Head, Coldplay, A Rush Of Blood To The Head, 351,,  
 A Sentimental Man, Stephen Schwartz, Wicked, 77,,  
 A Space Boy Dream, Belle & Sebastian, The Boy With The Arab Strap, 181, 88, 12/23/16; 1:20 PM  
 A Summer Wasting, Belle & Sebastian, The Boy With The Arab Strap, 126, 101, 12/23/16; 1:17 PM  
 A Summer in Ohio,, The Last Five Years, 243, 1, 6/24/14; 8:30 PM  
 A Sunday, Jimmy Eat World, Clarity, 272, 14, 5/9/12; 6:20 PM  
 A Tattered Line of String, The Postal Service, A Tattered Line of String - Single, 176, 89, 11/13/14; 1:02 AM  
 A Walk, Tycho, Dive, 316, 266, 11/2/16; 8:58 PM  
 A Whole New World, Disney, Collection: Stage & Screen Classics, 160,,  
 A dormir juntitos, Eddy Herrera, Eddy Herrera 2006, 279,,  
 A-OK, Motion City Soundtrack, I Am the Movie, 218, 1, 1/23/09; 5:25 PM  
 Absolutely (Story of a Girl), Nine Days, The Madding Crowd, 189, 32, 7/12/14; 3:13 PM  
 Accidentally in Love, Counting Crows, Shrek 2 OST, 188, 11, 3/18/15; 10:38 AM  
 Accidentally in Love, MIT Logarithms, Natural, 186, 5, 5/11/10; 8:01 PM  
 Across the Universe, The Beatles, Let It Be, 228, 39, 9/1/13; 8:46 PM  
 Across the Universe, Jim Sturgess, Across the Universe (Music from the Motion Picture) [Deluxe Edition], 207,,  
 Aeolian Harp and Sinister Resonance, Henry Cowell; piano, Piano Music, 223,,  
 Afer Ventus, Enya, Shepherd Moons, 246, 21, 8/16/13; 9:57 PM  
 Africa, Toto, Toto IV, 295, 1579, 5/11/17; 10:23 AM  
 After the Fall, Two Steps From Hell, Invincible, 146, 36, 4/22/17; 2:44 PM  
 Again I Go Unnoticed, Dashboard Confessional, The Swiss Army Romance, 144, 1, 12/30/09; 4:49 PM  
 Against All Odds, The Postal Service, Chillout 06: The Ultimate Chillout, 252,,  
 Ah we Noss, Nancy Ajram, Ah we Noss, 281, 63, 7/29/14; 9:12 PM  
 Ahí Le Va, Juanes, Fíjate Bien, 186, 5, 6/20/14; 8:04 PM  
 Alejandro, Lady Gaga, The Fame Monster (Deluxe Version), 274, 97, 7/28/17; 7:41 PM