

Assignment purpose: To compile, build, and execute an interactive application written in the C++ programming language with simple data types, mathematical equations, flow of control constructs (example: if/ else/while), and programmer defined functions using both pass by value and pass by reference parameters

Write a program that will compare and calculate some information about ages, leap years, and age categories.

Age Comparison , generation, and Leap years:

Create 5 programmer defined functions:

- A void function to ask and get the name, age , and year (use 3 reference parameters)
- A void function to find the generation category, based on the following (use 2 value parameters: name and year):
 - **The Greatest Generation (G.I. Generation):** Born approximately 1901-1927.
 - **The Silent Generation (Traditionalists):** Born approximately 1928-1945.
 - **Baby Boomers:** Born approximately 1946-1964.
 - **Generation X:** Born approximately 1965-1980.
 - **Millennials (Generation Y):** Born approximately 1981-1996.
 - **Generation Z (Centennials, iGen):** Born approximately 1997-2012.
 - **Generation Alpha:** Born approximately 2013-2024.
 - **Generation Beta:** A proposed name for those born approximately 2025 and onward.
 - **Before 1901 –** print a message
- A void function to find and print the youngest (pass 6 value parameters, names and ages)
- A void function to find and print the oldest (pass 6 value parameters, names and ages)
- A void function to print all the leap years up to 2025, keep in mind 1900 was not a leap year, but 2000 was a leap year (pass the name and the birth year by const reference parameters)
 1. Ask and get a first name, age, and birth year for 3 people
 2. Print a message indicating the category for each
 3. Find and print the youngest name and age (if there are 2 with the same age, only one name should print)
 4. Find and print the oldest name and age (if there are 2 with the same age, only one name should print)
 4. Iterate over all the years the user has lived and print which years were leap years.
 5. Use a loop (while or do/while) to continue to have the user enter the information for 3 new people as long as they enter 'Y' or 'y' to continue.

What to submit (1 file):

- Source code (.cpp file) – filename: lastname_A2.cpp

Sample Output : (see other file)

Additional instructions:

- Be sure to comment your code (see the template file)
- Include a program header COMMENT with the following information:
 - Name, date, course, and a brief description of the assignment
- Test your code in an IDE before submitting
- One source code file (unformatted text) will be submitted
- The file name must match the assignment
- The code must be submitted on time in order to receive credit (11:59 PM on the due date)
 - NOTE: there is a grace period until 8:00 AM the following day
- The assignment allows multiple submissions you may make revisions and resubmit until the final due date
- Late submissions (after 8 AM or sent by email) will not be accepted or graded

Modifying data and submitting it as your own is a fraudulent practice—specifically, plagiarism—and is no different than copying paragraphs of information from a book or journal article and calling it your own (make sure that you work independently and submit only your own work)

This programming assignment is individual work, sharing code is considered cheating,

The use of AI to assist in this assignment is prohibited.