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| Date Assigned: 1/29/16 | **Date Due: 2/2/16** |
| **Unit:** Language Basics | **Turn In List:** **1. This document** |
| *“I will understand and implement date/time features of my language.”* | |

**Title: It’s a Date**

**Content Objectives:** Students will properly use their language date/time features to make comparisons and calculations.

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| **Starter Activity** |
| How do you print the current full date and time in your language? |

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| **Assignment:** |
| Students will use the following websites and internet searches to complete the table below:  Java: <http://www.tutorialspoint.com/java/java_date_time.htm> Note the use of millis!  C++: <http://www.tutorialspoint.com/cplusplus/cpp_date_time.htm>  Python: <http://www.tutorialspoint.com/python/python_date_time.htm>  C#: <https://msdn.microsoft.com/en-us/library/system.datetime.now(v=vs.110).aspx>  C++ and Python: note the use of a struct to handle individual elements of the date/time! |

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| **Include Sample Code or Explanation for the following Concepts Below (copy and paste lines from editor)** | |
| Code to print current time only: |  |
| Code to print current date as: Day Month Year |  |
| Code to format date as: YYYY/MM/DD | cout << "What year were you born? (yyyy): ";  getline(cin, y);  int year = stoi(y.c\_str());  cout << "What month were you born? (mm): ";  getline(cin, m);  int month = stoi(m.c\_str());  cout << "What day were you born? (dd): ";  getline(cin, d);  int day = stoi(d.c\_str()); |
| Code to convert (cast)current date/time to string | string y;  string m;  string d; |

Psuedocode an app that asks for the user’s birthdate and calculates the age in millenniums, centuries, decades, years, months, days, hours, minutes, seconds.

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| #include <iostream>  #include <ctime>  using namespace std;  int main() {  time\_t currentTime = time(0);  struct tm \* now = localtime(&currentTime);    string y;  string m;  string d;    cout << "What year were you born? (yyyy): ";  getline(cin, y);  int year = stoi(y.c\_str());  cout << "What month were you born? (mm): ";  getline(cin, m);  int month = stoi(m.c\_str());  cout << "What day were you born? (dd): ";  getline(cin, d);  int day = stoi(d.c\_str());    if(month == 1, 3, 5, 7, 8, 10, 12) {  cout << "You are " << (now->tm\_year + 1900) - (year + 1) << " years " << (now->tm\_mon + 12) -  month << " months and " << (now->tm\_mday + 31) - day << " days old." << endl;  } else if(month == 4, 6, 9, 11) {  cout << "You are " << (now->tm\_year + 1900) - (year + 1) << " years " << (now->tm\_mon + 12) -  month << " months and " << (now->tm\_mday + 30) - day << " days old." << endl;  }  } |

Code the app that calculates the above psuedocode (note: depending on your language, you may need to ask for day, month and year separately and set each value to a global variable…) Consider adding functionality to ask for two dates and calculate the difference between them.

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