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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?  Import java.util.Scanner;  Import java.util.Calendar;  Public class DateTime {  Public static void main(String[] args) {  Scanner keyboard = new Scanner(System.in);  System.out.println(“Birth Year”);  Int year = keyboard.nextInt();  Sytem.out.println(“Birth Month”);  Int month = keyboard.next.Int();  System.out.println(“Birth Day”);  Int day = keyboard.nextInt();  Calendar now = Calendar.getInstance();  Int yearAge = (now.get(Calendar.YEAR)) – year;  Int monthAge = (now.get(Calendar.MONTH)) – month;  Int dayAge = (now.get(Calendar.DAY)) – day;  If(monthAge < 0) {  YearAge --;  monthAge += 12;  }  System.out.println(yearAge +” years “ + monthAge +” months and “ + dayAge + “ days old.”);  }  } |

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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: | Import java.text.SimpleDateFormat;  Import java.util.Calendar;  Public class currentTime{  Public static void main(String[] args) {  Calendar cal = Calendar.getInstance();  SimpleDateFormat sdf = new SimpleDateFormat(“HH:mm:ss”);  System.out.prinln( sdf.format(cal.getTime()) );  }  } |
| Code to print current date as: Day Month Year | Calendar now = Calendar.getInstance();  Int year = now.get(Calendar.YEAR);  Int month = now.get(Calendar.MONTH) + 1;  Int day = now.get(Calendar.DAY\_OF\_MONTH);  System.out.print(“%d-%02d-%02d %02d:%02d:%02d:%03d”, day, month, year); |
| Code to format date as: YYYY/MM/DD | Date myDate = new Date();  System.out.println(myDate);  System.out.println(new SimpleDateFormat(“MM-dd-yyyy”).format(myDate));  System.out.println(new SimpleDateFormat(“yyyy-MM-dd”).format(myDate));  System.out.println(myDate); |
| Code to convert (cast)current date/time to string | DateFormat df = new SimpleDateFormat(“yyyyMMdd HH:mm”);  String sdt = df.format(new Date(System.currentTimeMillis()));  System.out.println(sdt);  Or  String sdt\_ = DateFormat.format(“yyyyMMdd kk:mm”, dt\_).toString(); |

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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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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