Preparing for your Future with Computer Science

Exploring CS: Final Exam & Reflection in 3 Parts, the Introduction:
We have explored a wide variety of areas of computer science and there are many more for you to discover and investigate. We are going to do a quick review of the computing areas & concepts covered and then you will reflect on the areas you could use in the future and those you are interested in investigating. The goal is for you to identify what next areas of study including computer science that you should pursue to help you better reach your full potential, developing pathways to reach your current career goals.

By now it should be obvious that using computers in one form or another are key to you being productive for the rest of your life. You already use them as a Consumer to communicate with friends and for entertainment. You use a word processor to complete a homework paper and will likely be a User of computer applications in the workplace as part of your future job to be more effective. And like the projects you created in Scratch, you may even become a Developer of new applications of computers to innovate solutions in a future career.

Recall we have looked at the three Roles you play in using computers as a Consumer, User & Developer
- **Consumer** – <u>pays</u> to enjoy (consume): Playing games, socializing, sharing videos, shopping, finding news & scores online.
- **User** – <u>uses</u> computers & applications in their job: Creates documents, enters data and runs reports, designs promotional material & websites.
- **Developer** – <u>develops</u> solutions with computers: creating new applications, using computers to solve research problems, connecting users.

And here is the list of some of the areas we have explored in class:
- Computer hardware and the parts of a computer, and even looked inside a laptop, printer, cell phone and video game console to see the common components
- How data is represented in a computer – for numbers, text and images
- Learned a new application – Paint.NET and made new posters for our classroom
- The Internet and World Wide Web – how it works and can be used
- Online safety & security - choosing a good password and keeping our personal data safe
- Explored Internet Search and Browser options
- Designing web pages and a simple website – using HTML & CSS
- Creating projects in Scratch and the basic principles of computer programming

Over the week, you will create a single Word file in our class period's shared Writeable Folder that will contain all three parts of this Final Assignment. It is to be named "Final Careers - <your name>.docx" and saved to our shared writeable Exploring CS Folder for your class period. The final Assignment's three parts will count as your Final Exam, with Parts counting for 20 Project points as well as 20 Quiz points toward your final grade.

The three Parts of this Final Assignment are provided here:
- **Part 1: Connecting with Computer Science - Warm up & Review (at least half a page) - 10 Quiz Points**
- **Part 2: Your Career Aspirations (at least 1 page) - 15 Project Points**
- **Part 3: Computing in the Workplace (at least 1 page) - 10 Project Points**

Preparing for your Future with Computer Science

All this work is due by end of day (4pm) Thursday, January 31st – the last Final Exam Day for Exploring CS (periods 1 & 4). If you miss any class day or the final (excused or not), <u>you</u> will need to make arrangements with Mr. Bergquist to get this completed for your final grade in a timely manner.

http://www.garfieldcs.com/2012/01/final-part-1-connecting-with-computing/

http://www.garfieldcs.com/2012/01/final-part-2-your-career-aspirations/

http://www.garfieldcs.com/2012/01/part-3-computing-in-the-workplace/

Part 1: Connecting with Computer Science - Warm up & Review – 10 Quiz Points
(at least one half page long with 1 paragraph of 5 complete sentences)
Assignment: <u>The goal is to have you identify key areas of computer science that are most significant to you.</u> When we started the class we all took "How Techy are We?" survey where you answered the question "What is Computer Science?" and wrote down everything you knew about it. Take a look at your answers from the beginning of the semester and reflect on what you have discovered and leaned, focusing on how this knowledge may help you in your future. Then **create an MS Word document responding to the following two questions**, answering in full sentences and including examples and details, <u>your answer should be at least half a page in length</u>. Save the Word file to our class period's shared Writeable Folder, naming it "Final Careers - <your name>.docx". (at least on half page long with at least 1 paragraph of 5 good sentences).

1. What did you find the most exciting in exploring computer science? What areas and applications of computer science do you find the most interesting and will likely investigate further because of your own interests? <u>List at least two computer areas you enjoy</u>.
2. What areas and applications of computer science do you feel will be the most useful to you, especially in future careers that you are considering. <u>List two or more computer uses</u> that will be important to your future, <u>include specific examples</u> of how you see yourself using them.

Preparing for your Future with Computer Science

Part 2: Your Career Aspirations - 15 Project Points
(at least 1 page long with 2 paragraphs of 5 sentences each - total at least 10 good sentences)
Assignment: **create an MS Word document that expresses your current career focus and develop your career page using the specific questions below.** The goal is for you to identify what next areas of study including computer science that you should pursue to help you better reach your full potential, developing pathways to reach your current career goals. The resulting paper should be at least 1 page long, written in full sentences, include specific examples, and contain as many detail as you can find. Add your work to the Word file you started previously in our class period's shared Writeable Folder, named "Final Careers - <your name>.docx" adding this work as the Part 2 section clearly.

1. What are some of the things you will look for in a career and why? (Money? Travel? Flexibility?)
2. If you had to pick a career path today, what would it be? Why?
3. Research what kind of training that career path requires — is college the best way to reach your goals? Describe at least two paths to get where you want to go. Mention specific schools or programs you are interested in.
4. Describe all the ways in which you imagine you will use computing in this future path.

Our Garfield Career & Technical Education (Vocational Education) Classes:
Computer Science
- Exploring Computer Science
- Introduction to CS: Creative Computing
- Advanced Placement Computer Science (APCS)
- Projects in CS
Business
- Accounting
- AP Macroeconomics
- Marketing 1-4 & Lab
Engineering - Project Lead the Way (PLTW)
- Introduction to Engineering Design
- Principles of Engineering
Photography & Theatre
- Photography 1-4
- Technical Theatre
- Business

Seattle Skills Center (new for Fall 2012!):
http://www.seattleschools.org/modules/cms/pages.phtml?sessionid=3f74f3cad1a348eb9b34ecd74ef60468&pageid=252732
- AEROSPACE SCIENCE and TECHNOLOGY @King County International Airport
  Launch your aerospace career here
- CISCO/MICROSOFT IT ACADEMY @Rainier Beach High School
  Enter the world of IT with Information Communications Technology
- DIGITAL ANIMATION & GAME PROGRAMMING @Academy of Interactive Entertainment - Seattle Center - Create games and animation!
- MEDICAL CAREERS @West Seattle High School
  Establish your medical skills

Exploring Computer Science, Garfield HS, Mr. Bergquist, Jan 2013

Preparing for your Future with Computer Science

Preparing for your Future with Computer Science
Part 3: Computing in the Workplace - 10 Project Points
(at least 1 page long with 2 paragraphs of 5 sentences each - total at least 10 good sentences)
Assignment: **create an MS Word document that expresses your current career focus and develop with your responses to the following questions.** <u>The goal is for you to be able to discover more about computing by investigating more deeply a way computing is used in your current career path or a specific computing career</u>. The resulting paper should be at least 1 page long, written in full sentences, include specific examples, and contain as many details as you can find. Do not just cut and paste text – I want this in your words and ideas about the subject. Add your work to the Word file you started previously in our class period's shared Writeable Folder, named "Final Careers - <your name>.docx" adding this work as the Part 3 section clearly. Choose one of these two options for your paper:

Option 1: Your Career and Computing
Look up how computing affects a field you think you might be interested in pursuing. For example, if you are interested in pursuing nursing, it would be very useful for you to know that [Nursing Information Specialists](#) are in high demand. If you're interested in being a journalist, you might investigate the role of social networking in providing news. If you're interested in becoming an FBI agent, read about how [agency records are now linked by an expensive computer system](#). If you want to be an auto mechanic, you might be interested in reading one mechanic saying that ["computers have become as much a part of the tool box as wrenches."](#) Summarize the applications of computing you find and describe how they will impact what you do. Provide lots of details and cite your sources.

Option 2: Cool Computing Jobs and Projects
Take this as an opportunity to dig more deeply into what it's like to work in computing. You could describe the daily tasks involved in a particular computing job, for example, a [computer forensics expert](#). Alternately, you could focus on a specific research area like [Human Computer Interaction](#) or a particular research project like [Fold-It](#). Provide lots of details and cite your sources. These resources should help get you started:
- [Computer science jobs](#)
- [Computing jobs](#)
- [Computer science sub-fields](#)
- [UW computer science research](#)
- [MIT media lab research](#)