**ICS4U/C: POST-SECONDARY OPPORTUNITIES**

Answer the following questions in this document:

(You do not have to use the links I have attached, but they may be helpful)

1. Research any computer career and determine the following information about it.

* Job Description

Software development is a computer field where we will learn to make programs, softwares, games, etc... Before making any computer program, software development contains some step such as collecting information from the society to find what software the developers should make, designing the software with the interface, database,etc... and final is coding to make the software come true.

* Work Environment

Working with software development will requires different work environment depend on the size of the software, the importance of teamwork,etc... . However, if you are a software developer. you can have your own working environment at home, company or a lab. All you need is the internet and a computer.

* Education and Training

To be able to work in software development you need to have some degree such as:

Bachelor of science and management

Bachelor of science

Bachelor of computer science

* Certifications

CompTIA A+

* CompTIA Project+
* CIW Site Development Associate
* CIW User Interface Designer
* CIW Advanced HTML5 and CSS Specialist
* Employers

With a good knowledge about software development you can be accepted and work for

1. Microsoft

2. Google

3. IBM

4. Dell

* Job Advancement

Working in software development you can have the opportunities to become a:

1. Software designer

2. Software engineer

4. Software development manager

5. Director in software engineering

In software development, you can see a difference from other career that is you will always learn a new thing and you can have the chance to be in higher position if you work hard. The more experiences you have, the more job advancement you can get.

* Job Prospects and Outlooks

<https://www.theglobeandmail.com/report-on-business/economy/jobs/what-risk-does-automation-pose-to-your-job/article30434394/>

Base on the www.theglobeandmail.com the probabilities of automation of software development is 8.6% which is very low. Furthermore, after the appearance of AI and robot revolution, software development may be needed more in the future in order to develop the new generation of AI and robot. Beside that, software development also needed in other field such as making applications in science, education, game programing, mobile app design, embedded system,etc... We can see that no matter what career you are, you still need the support from the computer applications, the accuracy, fast, cheap price from the robot. Everything have to relate to software development, so this career will be in high demand in the future.

* Earnings

Working in software development usually you can get this amount of salary for a year if you have been working for a long time and having a specific level of knowledge. Software developers have the amount of salary from 45,073 $ to 85,000 $. In addition, this number can be higher if those developers have their own project outside the company.

* Related Occupations

<https://www.jobbank.gc.ca/wage-outlook_search-eng.do?reportOption=outlook>

<https://www.app.tcu.gov.on.ca/eng/labourmarket/ojf/findoccupation.asp>

<https://www.jobbank.gc.ca/home-eng.do?lang=eng>

Computer and information research scientists

Computer and information systems managers

Computer hardware engineers

Computer network architects

Computer programmers

Computer support specialists

Database administrators

Information security analysts

1. Choose a computer related occupation from the Ontario Skills Passport database.

<http://www.skills.edu.gov.on.ca/OSP2Web/EDU/DisplayNocDetails.xhtml?nocid=1421>

<http://www.skills.edu.gov.on.ca/OSP2Web/EDU/DisplayNocDetails.xhtml?nocid=2174>

<http://www.skills.edu.gov.on.ca/OSP2Web/EDU/DisplayNocDetails.xhtml?nocid=2171>

<http://www.skills.edu.gov.on.ca/OSP2Web/EDU/DisplayNocDetails.xhtml?nocid=2281>

<http://www.skills.edu.gov.on.ca/OSP2Web/EDU/DisplayNocDetails.xhtml?nocid=2175>

Report the occupation's description and its most important Essential Skills.

<http://www.skills.edu.gov.on.ca/OSP2Web/EDU/DisplayEssentialSkills.xhtml>

Computer programmers write, modify, test computer program for microcomputer, take part in making software applications, checking and testing software in operating system. They work in the computer software development company or software consulting for private and public organization.

The most important essential skills for a computer programer is:

|  |  |
| --- | --- |
| Essential skills | Level |
| Reading text | 4 |
| Writting | 4 |
| Document use | 4 |
| Oral Communication | 5 |
| Money math | 3 |
| Scheduling or Budgeting and Accounting | 3 |
| Measurement and calculation | 2 |
| Data analysis | 3 |
| Numerical Estimation | 3 |
| Job task planning and organizing | 3 |
| Decision making | 3 |
| Problem solving | 3 |
| Finding information | 4 |
| Critical thinking | 2 |

1. Suppose you wanted to teach yourself about a computer-related field. What opportunities and resources exist outside of traditional post secondary (college/university) options.

I think beside college and university, we can learn a computer-relate field from the people who also work on the career that we want to learn. Working with those people will help us to understand more about the career that we want, and we can have the best environment, advices to get further. We can also teach our self by finding the books that also be used for the student that have the same computer-relate field in the university. These two ways are really good for starting

1. A) What is the Agricultural Revolution in your own words?

Agricultural revolution was the changing or shifting of human from hunting and gathering to agriculture and settlement. At this time human know how to grow that take care of trees, farm. They lived near each other, started to make new agriculture equipment from stone to metal such as iron and copper. At the agricultural revolution, the population increased and marked the time that people growing to a new level.

b) What is the Industrial Revolution in your own words? What was the Luddite movement in your own words?

Industrial revolution was the changing to the new manufacturing methods to processes things happened between 17th and 18th century. The changing includes replacing hand making into machine making. It also contains the development of machine tools and the factory system shape.

Luddite are those people who were not agree with the industrial revolution. They afraid that the fast growing of industrial would replace their major in the society. They were the people who wanted to stop the industrial revolution.

c) What was the Digital Revolution in your own words?

Digital revolution is another shift from the mechanical technology to digital technology started at the late 19th century. Digital revolution open the gate of information with the appearance of computers, cell phones, laptop and the most successful, Internet.

d) Research online to find articles and videos about which jobs are likely to be in-demand and which are likely to not exist in the future. Consider which will be at risk of being lost to automation (robots and artificial intelligence) and which fields/industries will be in high demand (including creating and repairing the robots and AI).

Comment on any interesting findings

<http://fortune.com/2017/11/29/robots-automation-replace-jobs-mckinsey-report-800-million/>

<https://www.cnbc.com/2017/10/05/report-ai-and-robots-could-change-your-career-within-5-years.html>

<http://fortune.com/2017/03/24/pwc-robots-jobs-study/>

In the future those people who work as the workers, farmers or any career that relate to hand making will likely not exist in the future because of the fast growing of robot and AI technology. Nowaday, there are many job such as car, ship or truck making industry using robot and AI to replace human in some manufacturing steps because robot can do so many work on time with the high yield at the cheaper price. Moreover, in some specific career such as medical industry especially in the hospital. The doctors also need those robot to make surgery, for robot decreases the risk and do the job with the high accuracy. In the next 50 years, many industries that require people to have science, engineering, or computer degrees such as AI development, software engineers, mechanical engineers, doctors,etc... or any job that still need human to make the complex decision that computer can not and control the computer or robot to do the task will be in high demand.

5. Thinglink \*\*\* DO NOT SIGN UP AS “STUDENT”, SIGN UP AS “OTHER”\*\*\*

Present any and all important findings from this research piece in a thinglink. (Examples in Google Classroom Assignment)

<https://www.thinglink.com/scene/1020534983124582402>

Thing Link Project.