PLTW COMPUTER SCIENCE

Project 4.2.5

Computer Science Principles

Introduction

In this course you have worked with a variety of computational tools. More importantly, you have explored a wide variety of subfields of computer science.

What will computer science do for you in the future?

Materials

- Paper and a writing utensil
- Computers with Internet access and CSE course software

Procedure

1. Form pairs as directed by your teacher. Meet or greet each other to practice professional skills.
2. For the remainder of this course, you will work on a final project of your own design with your partner. You will choose what languages and/or technologies you will use to complete your project from the tools that you have used in this course or others if approved by your instructor. You may start a new project or continue working on a favorite project from earlier in the course. When you are finished, you will present your project to the class as directed by your instructor. Your presentation must include answers to all relevant following prompts:
    - What was the goal of your project?
    - How did your project enhance human communication, interaction, and/or cognition?
    - How was your project innovative?
    - What are the positive and negative effects that may be associated with your project existing in today's world?
    - How do economic, social, and cultural contexts impact the creation and use of projects like yours?
    - How did the creation of your project benefit from the structure and function of the Internet?
    - If cybersecurity will influence users of your project, how will it do so?
    - Describe one algorithm implemented in your project.
    - How did the development of your project benefit from abstraction?
    - What processes did you go through to develop and test your project?
    - How did your project take advantage of mathematics and logic?
    - How does your project help people, organizations, or society solve problems?
    - How does your project satisfy personal curiosity, create new knowledge, or act as a form of creative expression?
    - Why did you choose the tools that you did for working on your project?

Copyright © 2017 Project Lead The Way, Inc. All rights reserved.

- How does your project process data and information to gather knowledge or insight?
- How does your project facilitate exploration and discovery in working with data?
- What trade-offs and/or considerations arose from any computational manipulation of data in your project?
- How did your project benefit from the availability of big data?
- How did you use models and simulation to help generate new understandings and knowledge?
- What role did creativity play in your development process?
- How did the current state of computational technology affect your ability to produce a creative project?
- How does your project contribute to human experience?
- What role do you see the skills you employed to create this project playing in a potential future career?

Copyright © 2017 Project Lead The Way, Inc. All rights reserved.