Summer Assignment for AP Computer Science Principles (CSP): Python Programming

Due August 17th, 2024

Objective: This summer assignment will introduce you to Python programming concepts and prepare you for the AP CSP course. It is designed to familiarize you with Python programming fundamentals and encourage creative problem-solving. Enjoy the learning process!

Part 1: Python Basics (50%)

Python Tutorial:

Complete an introductory Python programming tutorial from reputable online platforms like w3schools, Codecademy, Coursera, or edX. Focus on variables, data types, control structures (if statements, loops), functions, and lists.

Programming Exercises:

Write Python programs to solve the following problems **(5% overall)**:

  a) Calculate the area of a rectangle given its length and width **(15%)**.
  b) Convert a temperature in Fahrenheit to Celsius. **(15%)**.
  c) Write a function to check if a given number is prime. **(15%)**.

Part 2: Documentation and Reflection (50%)

Code Documentation:

Include comments in your Python programs explaining the purpose of each function and significant code blocks.

Reflective Essay:

Write a reflective essay (200-400 words) addressing the following prompts: **(10% overall)**.

- Describe your experience learning Python programming over the summer. **(10%)**
- Discuss any challenges you encountered and how you overcame them. **(10%)**
- Reflect on the importance of programming skills in today's technological landscape. **(10%)**
- Share your thoughts on how Python can be applied to solve real-world problems. **(10%)**

Submission Guidelines:

- Email your Python programs files, and your reflective essay as a Word document or PDF to chadi.alhajjar@student.bbs.edu.kw.
- Include your name and grade in all submitted documents.

Evaluation Criteria:

Your summer assignment will be evaluated based on:

- Completion and correctness of Python programming exercises.
- Creativity and functionality of your Python project.
- Clarity, organization, and depth of reflection in the essay.

Be Aware: Failure to submit this assignment may result in your inability to enroll in the AP CSP course.