Name: (as it would appear on official course roster)
UCSB email address: **@ucsb.edu**
Lab Section:
Optional: name you wish to be called if different from above
Optional: name of "homework buddy" (leaving this blank signifies "I worked alone")

h01: Introduction to CS

Assigned: Tuesday, April 2nd, 2019
Due: Tuesday, April 9th, 2019
Points: 100

- You may collaborate on this homework with AT MOST one person, an optional "homework buddy". MAY ONLY BE TURNED IN THE LECTURE LISTED ABOVE AS THE DUE DATE. There is NO MAKEUP for missed assignments; in place of that, we drop the single lowest score (if you a zero, that is the lowest score.)
- When submitting this homework:
    - **DO NOT USE STAPLES**
    - WRITE YOUR **NAME ON EACH PAGE** IN THE SPACE PROVIDED
    - USE DARK INK PENS – PLEASE **DO NOT USE PENCIL**

READING ASSIGNMENT: Read Chapter 1 in Perkovic, review your lecture slides/notes. Then complete these problems.

1. (10 pts) Please fill in the information at the top of this homework sheet, including your name and UCSB email address. Put the time your discussion section starts () in the space indicated (the one you are registered for—even if you usually attend a different one.) If the other two items apply, please fill them in as well. Please do this every single time you submit homework for this class.

2. Section 1.1 of the textbook describes Computer Science in general. It includes a passage that distinguishes between models, algorithms and programs. I'm going to ask two questions about the relationships among these concepts. In your answer, don't just copy down an exact quote from the textbook; explain in your own words. If you don't think you understand the relationship, be honest about that, and write down what you are confused about, or your best guess at what the author is trying to say.

    a. (5 pts) What is the relationship between an abstract model and an algorithm?

    b. (5 pts) What is the relationship between an algorithm and a program?

3. (10 pts) Section 1.2 of the textbook describes Computer Systems in general. According to our author, why did computer scientists create programming languages such as Python, C, C++, Java, etc.?

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4. Continuing with questions from Section 1.2:
   a. (10 pts) The author makes a distinction between the "core set" of features in a programming language, and those that are put into "software libraries". What are two examples of features that end up in libraries rather than in the core language?

   b. (10 pts) What is the advantage of putting those features into libraries rather than into the core?

   c. (10 pts) APIs (Application Programming Interfaces) are important in programming—our author gives a nice clear explanation of what an API is. What is that explanation?

5. Section 1.3 of the textbook describes the Python programming language.
   a. (5 pts) What is the interactive shell used for?

   b. (5 pts) What does a Python program consist of?

6. According to lecture:
   a. (3 pts) What is machine language?

   b. (4 pts) How is it related to a programming language like Python?

   c. (3 pts) What/who is Linux?

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7. Read the ENTIRE class syllabus and answer the following questions:
    a.   (2 pts) What is Prof. Matni's policy on late homework and late labs?

    b.   (2 pts) What is Prof. Matni's policy on makeup exams?

    c.   (2 pts) What are Prof. Matni's office hours and where are they held?

    d.   (2 pts) What is the name of **your** lab section's teaching assistant?

    e.   (2 pts) What are the open lab/office hours of **your** lab section's teaching assistant?

    f.   (2 pts) How do you turn in homework assignments?

    g.   (2 pts) Where do you go to see you homework assignments' grades?

    h.   (2 pts) Where do you turn in lab assignments?

    i.   (2 pts) Where is the class' main website?

    j.   (2 pts) What website do we use for asking class-related questions/having discussions online in this section of CS8?