

**ECE571: Advanced Microprocessor Design – Homework 9**  
Fall 2022

**Due: Thursday 17 November 2022, 2:00pm**

Create a document that contains the answers to the questions below. A .pdf or .txt file is preferred but I can accept MS Office or Libreoffice format if necessary.

1. Read the website article:

**AMD Zen 4 Ryzen 9 7950X and Ryzen 5 7600X Review: Retaking the High-End** by Ryan Smith and Gavin Bonshor (note that there are many pages to this article, don't feel obligated to read all of the benchmark parts).

<https://www.anandtech.com/print/17585/amd-zen-4-ryzen-9-7950x-and-ryzen-5-7600x-review-retaking-the-high-end>

I apologize for the obnoxious ads while reading. Pressing “print this article” and reading that might help make it a bit more readable.

2. Answer the following questions:

- (a) What is AVX-512?
- (b) What benefits come from moving to a 5nm processing node?
- (c) How are LGA sockets different from PGA sockets?
- (d) What is one improvement to the branch predictor found in Zen4?
- (e) How has the L2 cache changes since Zen3?

3. **Submitting your work.**

- Create the document containing the answers to the questions asked.
- Please make sure your name appears in the document.
- e-mail the file to me by the homework deadline.