- Assignments must be completed individually.
- No late assignments will be accepted.
- Provide **concise** answers to the following questions. Use **point form** whenever possible.
- Submit your completed solutions to **Crowdmark**.

[4] 1. Give a real life example, not from the textbook or the Lecture Notes, of a case when a software fault had a serious real-world consequence. Provide one link to a web page which describes your example.

[4] 2. The Classical (Waterfall) life-cycle has no Testing phase. Briefly describe two problems that could arise, if a Testing phase were introduced between the Implementation and Postdelivery Maintenance phases of the Classical (Waterfall) life-cycle.

[4] 3. Recall from the Lecture Notes that postdelivery maintenance makes up between $\frac{2}{3}$ and $\frac{3}{4}$ of the total cost of delivering a software product. Suppose that a software product cost \$5 million to develop. Using the provided proportions, give an upper bound and a lower bound for the total cost of delivering this software product. Show your work.

[4] 4. The phases of the **Classical Life-Cycle Model** are

Requirements ($p = 1$)	Implementation ($p = 4$)
Analysis ($p = 2$)	Post-Delivery Maintenance ($p = 5$)
Design ($p = 3$)	Retirement ($p = 6$)

Suppose that there are some constants $m, b > 0$ such that, for each phase $1 \leq p \leq 6$, we have

$$\text{cost of fixing a fault found in phase } p = m \cdot p + b.$$

Also suppose that you just found a fault during the Design phase which cost \$9,000 to fix, and you found a similar fault during the Requirements phase which cost \$4,000 to fix. Compute the values of the constants m and b. Then use these values to determine how much it would cost to fix a similar fault during the Implementation phase. Show your work.

[4] 5. Briefly explain why we study Iteration and Incrementation in CS 430.