

# AP CSP – Summer Assignment Notes

## History of Computers

- What is a computer (your first thoughts – pause the video and answer this question before moving on)?
- After watching more of the video, what is a computer? Were you close?
- What is Moore's Law?
- What is a program?

## Evidence Collection on People in Computing

### A. Charles Babbage

- Time Period:
- What did the term 'computer' mean?
- Main contribution:

### B. Ada Lovelace

- Time Period:
- What did the term 'computer' mean?
- Main contribution:

### C. Alan Turing:

- Time Period:
- What did the term 'computer' mean?
- Main contribution:

#### D. Mauchly and Eckert

- Time Period:
- What did the term 'computer' mean?
- Main contribution:

#### E. ENIAC Programmers

- Time Period:
- What did the term 'computer' mean?
- Main contribution:

#### F. Grace Hopper

- Time Period:
- What did the term 'computer' mean?
- Main contribution:

Based on the evidence you have collected, write a one sentence summary of your conclusion to the question *Who is the inventor of the computer?*

Choose one of the following methods as evidence to support your claim:

1. **Paragraph:** In a minimum of 5 complete sentences, provide specific evidence from a variety of sources.
2. **Timeline:** Create a timeline of the development of the computer. Your timeline should highlight the impact of your chosen innovator.
3. **Concept Map:** Create a bubble map that visually shows the relationships between the different computer innovations. Your concept map should highlight the impact of your chosen innovator.

\* You may complete this in a separate document.

## Computer Organization

- What are the 2 main parts of a computer, and what do they do?
- What is an output device, and what are some examples?
- What is an input device, and what are some examples?
- What are storage devices, what are the two categories and list examples?
- What are network devices?
- What is a router?

## Software

- What is software?
- What are the two types of software?
- Which type of software interacts directly with the hardware?
- What are some examples of system software?
- What is a GUI?
- What are common OS's?
- What is a programming language?

- List 5 computer software applications you use regularly:
- Why does your computer need an operating system? List three to five reasons.

## Hardware

- What is hardware?
- What is binary?
- What is a bit?
- How many bits in a byte?
- What are the 3 main hardware components of a computer?
- What is RAM? Does it persist after we turn off a computer?
- What is the motherboard, and what does it do?
- What is the CPU, and what does it do?
- Compare and contrast hardware and software.  
List three to five differences.

Then, list three to five similarities.

## Future of Computing

- Today's traditional computers use which type of architecture?
- What is meant by deterministic?
- What are the 2 types of new computers talked about?
- Summarize DNA computers:
- Summarize quantum computers:
- Answer the following questions based on the video 'Pros and Cons of AI':
  - What types of jobs will AI affect the most?
  - How has AI impacted the health industry?
  - What is the risk of autonomous weapons?
  - Take a Stand: Do you think computers that are controlled by an AI are something to be afraid of?

Why or why not? Answer in a minimum of 5 sentences.