1. IoT (Internet of Things)
   1. Internet of things refers to the way that devices are embedded with technology that allows them to connect with the internet. Things like this can be as simple as a printer or something as complicated as a medical device that hooks up to a user interface. Regardless these devices need to have security measures in place, otherwise someone could exploit them and gain access.
2. Embedded Technologies
   1. Embedded technologies refer to devices that use hardware with a dedicated function within a larger mechanical or electrical system.
3. Edge Computing/ Analytics
   1. Rather than data being funneled to one main location, data is gathered across specific networks and used to help improve efficiency. Commonplace in industrial companies.
4. SDLC
   1. Software Development Lifecycle
   2. Consists of a series of steps to follow in order to build and maintain a stable end-product. Steps include:
      1. Planning: Meeting with a client to discuss what they might need/ what they are looking for.
      2. Implementation: Software engineers start writing code according to the client’s request
      3. Testing: Make sure the code doesn’t have any bugs or defects.
      4. Documentation: The whole process is documented in the event they need to go back and to aid in its continual development. May include writing an API
      5. Deployment/ Maintenance: Software is deployed
      6. Maintenance: Software improvement/ new requirements (change requests)
   3. Types of Models:
      1. Waterfall Model:
         1. Finish each phase completely before moving onto next one.
      2. V-Shaped Model:
         1. Focuses on execution of processes in a sequential manner, similar to waterfall but more focused on testing. Testing procedures are determined before commencement of writing code.
      3. Incremental Model:
         1. Involved multiple development cycles. The cycles are divided up into smaller iterations. These iterations are managed and go through a set of phases including:
            1. Requirements
            2. Design
            3. Implementation
            4. Testing
5. TTP Hunting
   1. Tactics, Techniques and Procedures. It basically means to continually scan a set of networks to determine if there are any attack vectors that might be used by an advanced hacker. Basically, try to close gaps before someone else finds them.
6. Cyber Attack Lifecycle:
   1. Reconnaissance: Identifying Potential Targets
   2. Initial Compromise: Attackers bypass perimeter defences and gain access to internal network.
   3. Command and Control: Compromised device is then used as a beachhead into an organization.
   4. Lateral Movement: They compromise additional systems and user accounts.
   5. Target Attainment: Attacker hasw multiple remote access points and understands the system well.
   6. Exfiltration, corruption, and disruption: Attacker executes the final aspects of their mission, stealing intellectual property or other sensitive data, corrupting mission-critical systems, and generally disrupting the operations of the business.
7. DLP Systems
   1. Data Loss Protection Systems:
      1. Various types of systems, but basically these are used to keep information from being lost or stolen. Network, Endpoint, and Data Identification methods are all examples.
8. TCP Connection Attack:
   1. An attack used to keep a computer from connecting to the internet. Can be used in a normal situation in the event a computer crashes and it is connected to the internet. When the crashed computer reboots it will still be receiving information from the other computer. In this case it will ask to reset the connection as it cannot use the packets that were already sent. These can be forged so that it disconnects the computer, and then a third party can have the connection set to the attackers machine, then they can monitor activity.
9. NIST Framework
   1. The National Institute of Standards and Technology Framework is a set of standards set up by the government to ensure organizations are keeping their technology secure.
10. MVC Framework
    1. An architectural pattern that separates an application into three main logical components, Model, View, and Controller. Each component is built to handle specific development aspect of an application. I use Django which some interpret as an MVC Framework.