Lecture 6 Reading Summary

Long-Term Memory:

When we perceive things, our brain processes the information through different senses, such as sight, sound, taste, smell, and touch. Each sense triggers a response in a specific area of the brain that is dedicated to that sense, and the response then spreads to other areas of the brain to detect higher-level features of the input. These features are then stored in our memory through changes in the neurons, which make the pattern easier to reactivate in the future.
To activate a memory, we need to reactivate the same pattern of neural activity that occurred when the memory was formed. This can be achieved through similar perceptions or through stimulation from other parts of the brain. Our long-term memory is made up of different functions, including semantic memory for facts and relationships, episodic memory for past events, and procedural memory for action sequences.
This brain of ours processes and stores information through different senses, and the process of memory formation involves changes in the neurons that make it easier to reactivate the corresponding neural pattern in the future. Our brain can recall memories through reactivating the same pattern of neural activity that occurred when the memory was formed.

Short-Term Memory:

Short-term memory is a combination of several different processes, including perception, attention, and retrieval from long-term memory. One part of short-term memory is related to perception, where each sense has its own brief memory that persists after a stimulus is perceived. These residual perceptions can be stored in long-term memory and serve as potential input to working memory.
To focus our attention on a small set of perceptions and long-term memories, the brain has several attention mechanisms that help us ignore irrelevant information. Working memory is the primary component of short-term memory, consisting of a small set of perceptions and activated long-term memories that we are aware of at a given moment. It integrates information from all sensory modalities and long-term memory and includes an executive function located in the frontal cortex that helps manipulate the items we are attending to.
Short-term memory is a complex process that involves perception, attention, and retrieval from long-term memory. Working memory is the main part of short-term memory, integrating information from different senses and long-term memories and consisting of a small set of activated perceptions and long-term memories that we are aware of. An executive function located in the frontal cortex helps manipulate and refresh the items in working memory.