STOCHASTIC PROCESS

TEAM MEMBERS

Ahmed Abdelsalam Ahmed Mohammed

20201370151

Abdallh Elsayed Khalaf Salama

20201498528

Ahmed Mohamed Ahmed Hosny

20201321611

Mohamed Farag Abdelmqsoud

20201498657

Omar Alaa Kotb Eleisi

20201290382

TOPIC MEANING

Markov Chain is a special model of stochastic processes used to predict future transitions depending on the probabilities of transitions from each state to the other ones. This project is intended to show our understating of implementing **Markov chains** and demonstrate how it would work in a **Gambling game**.
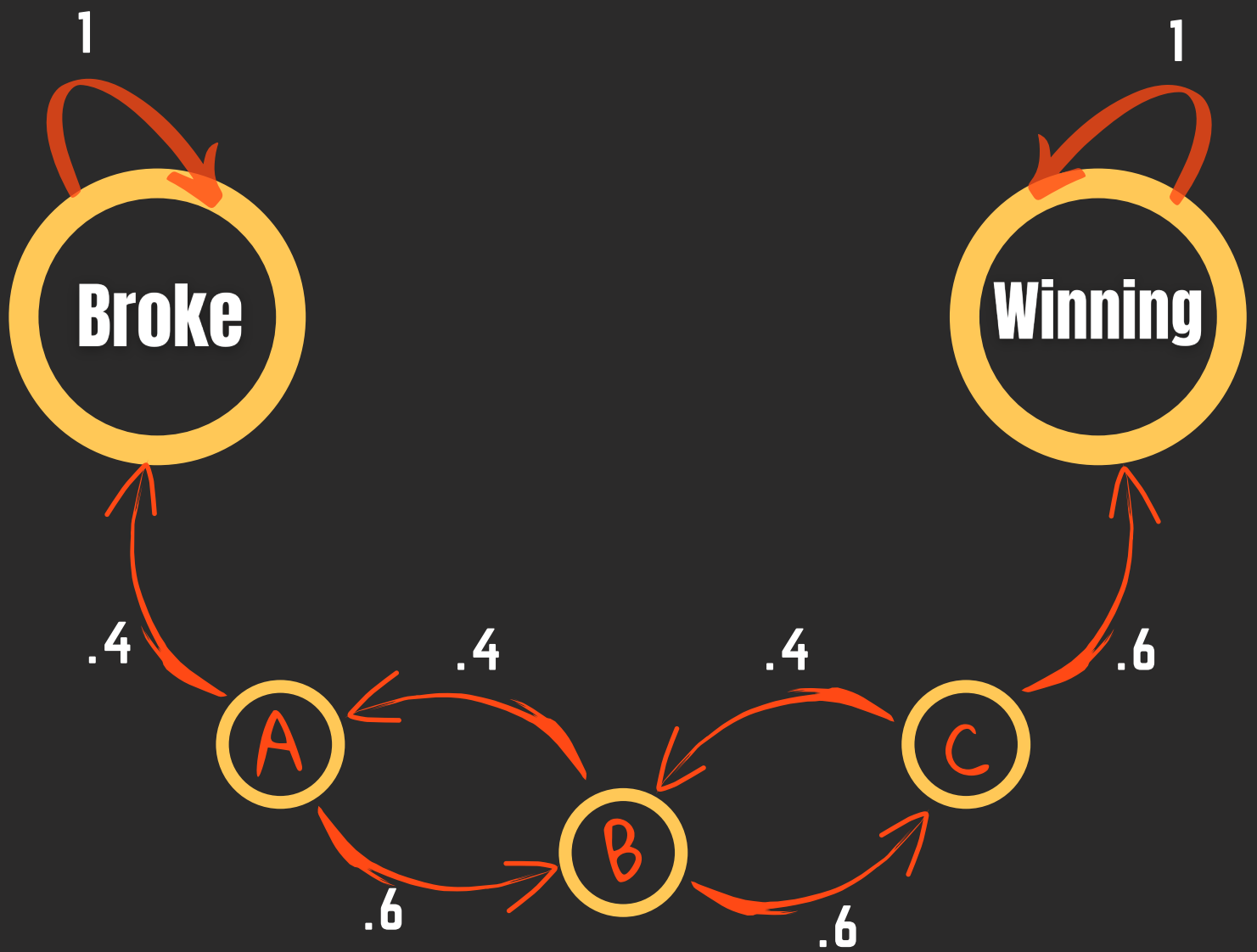
Main Points

We're planning to apply a Markov chain using 5 states, {Broke, Winner} are "Absorbing" states, {"A", "B", "C"} are transient states. Gambler is supposed to start from {A} (the initial state) and needs to get to {Winner} state to win the game. A Gambler has a 60% chance of moving toward the {Winner} state and a 40% chance of moving toward the {Broke}. The Markov chain ends whenever {Broke} or {Winner} is reached. The probabilities {0.6, 0.4} are chosen since it should be harder to Lose