



BİÇİMSEL DİLLER VE OTOMATA TEORİSİ

Biçimsel Diller ve Otomata Teorisi

4. Hafta

DR. ÖĞR. ÜYESİ. HÜSEYİN VURAL

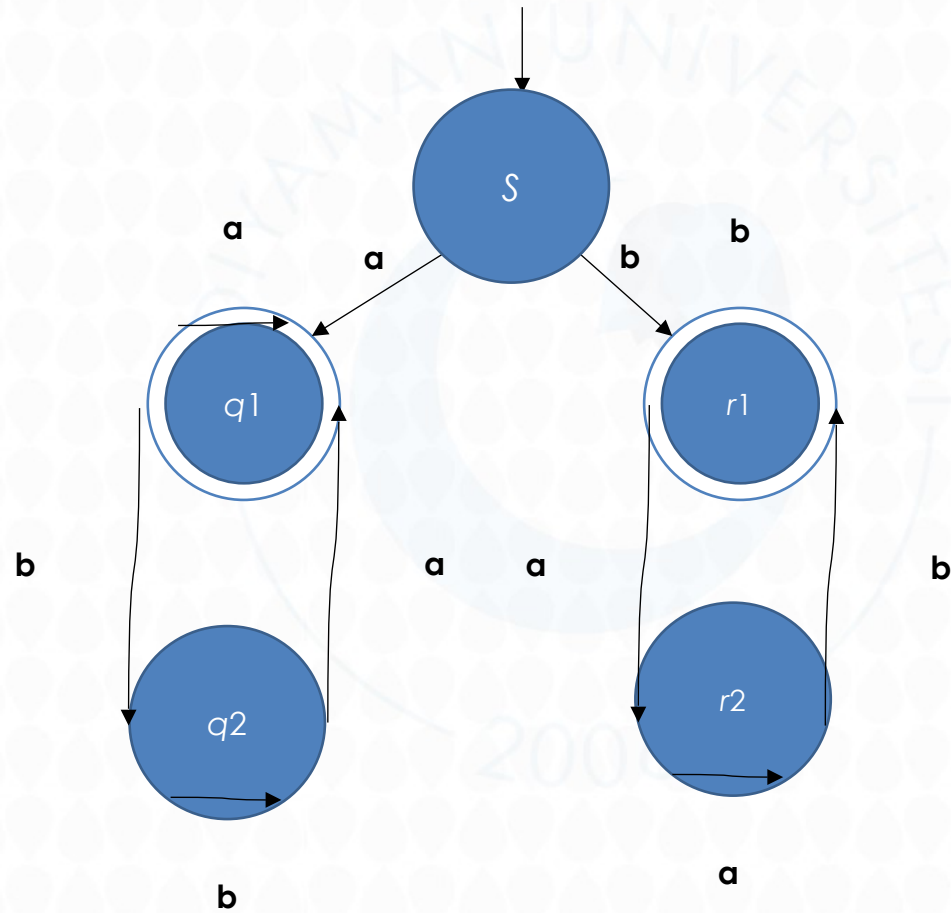


Ders İzlenesi

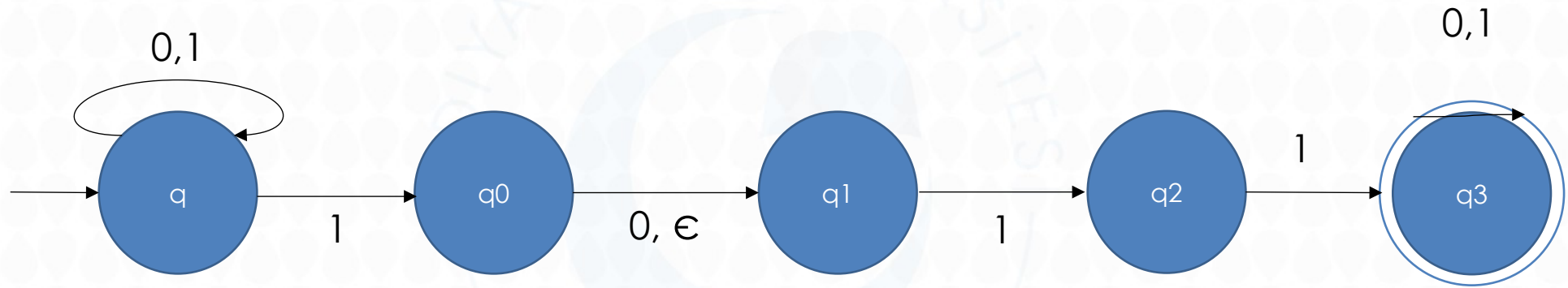
- Nondeterministic Finite Automata (Kararsız Sonlu Otomata)
- Kararsız Sonlu Otomata Tasarımı

Sonlu Otomata Örnekleri

- M2 otomati

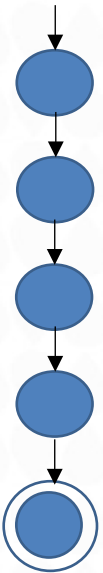


NFA Örneği

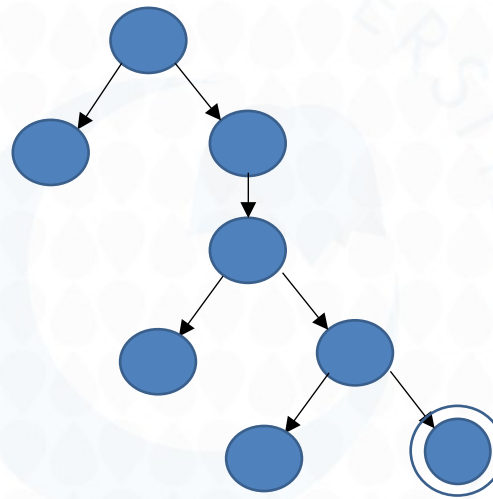


NFA Örneği

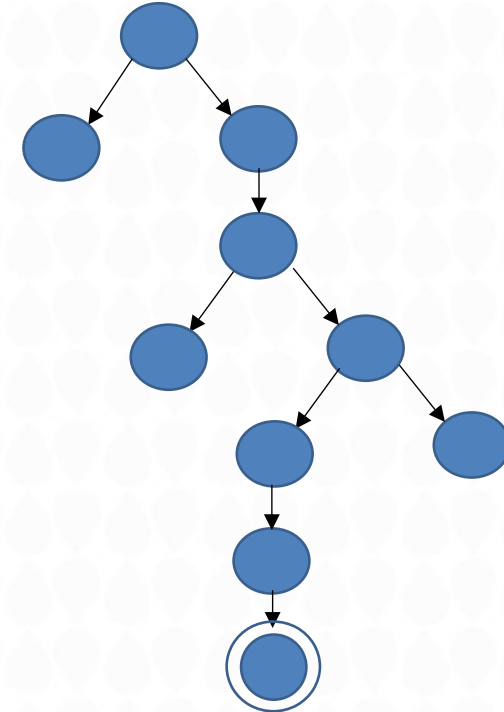
DFA



NFA

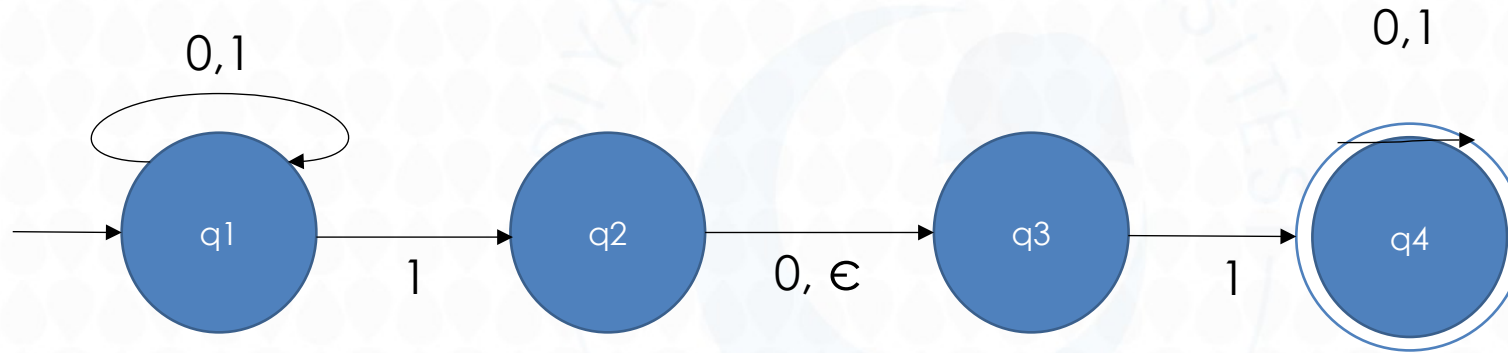


NFA



NFA Örneği

- N1 NFA'sı 010110 string'ini kabul eder mi?

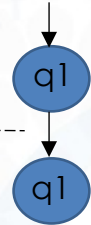


NFA Örneği

Okunan sembol

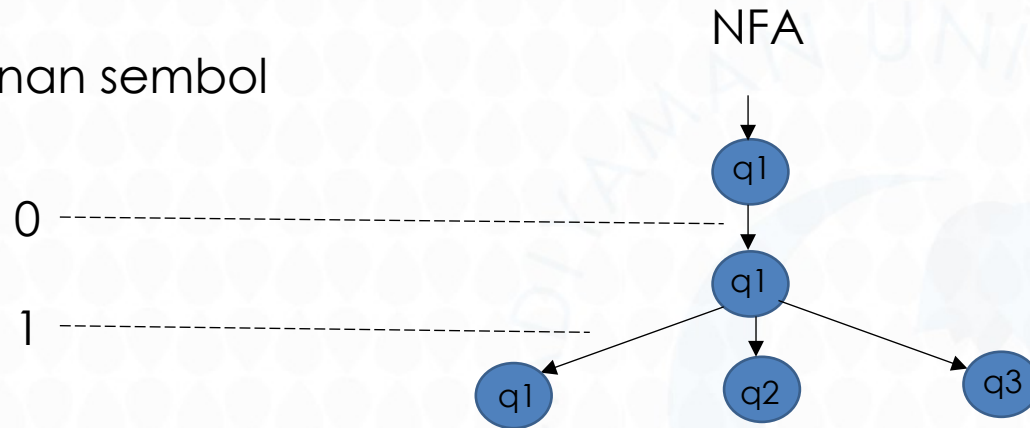
0

NFA



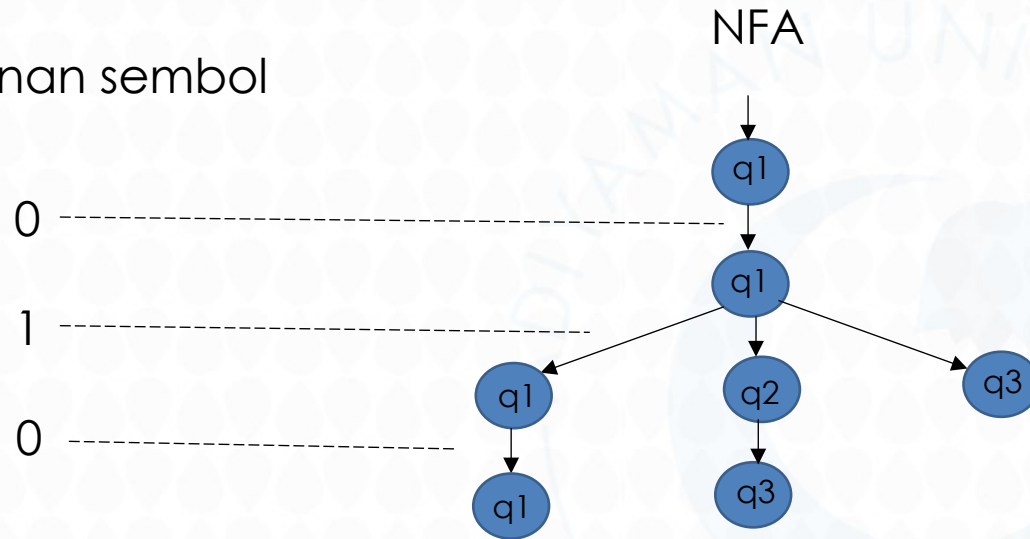
NFA Örneği

Okunan sembol



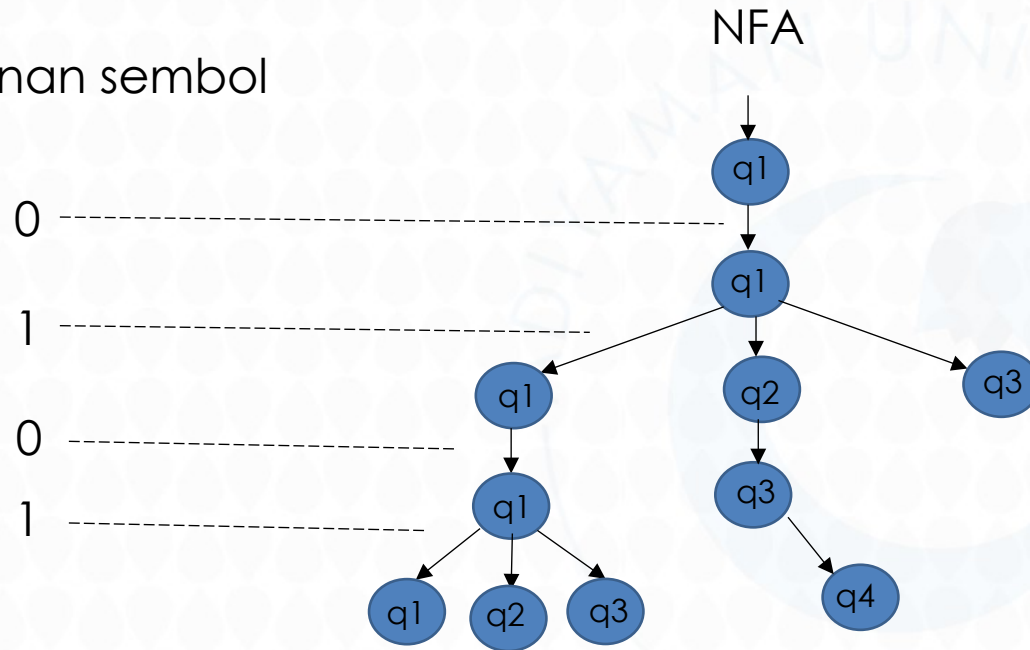
NFA Örneği

Okunan sembol



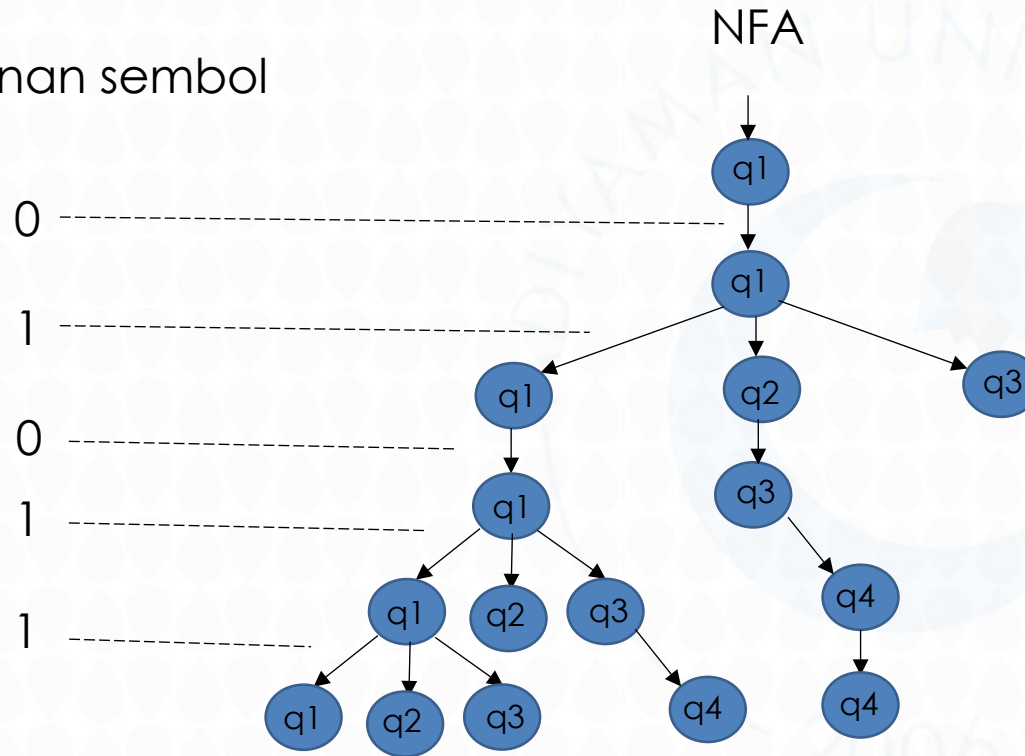
NFA Örneği

Okunan sembol



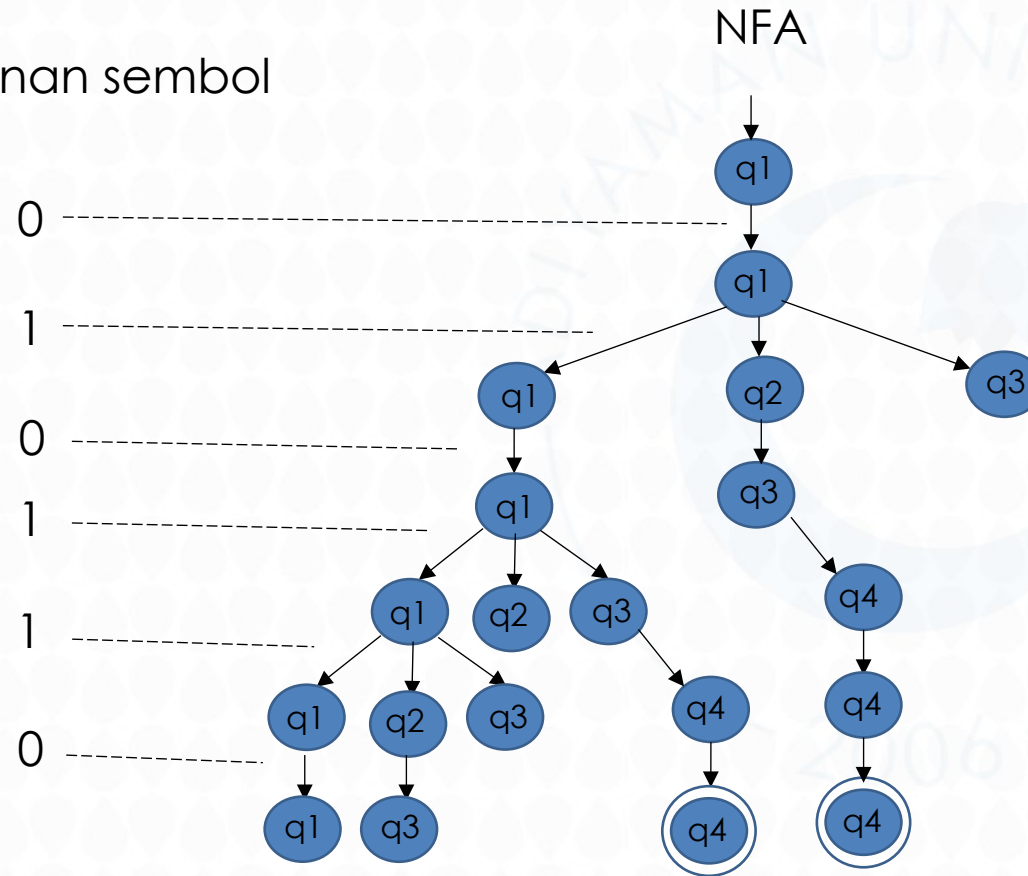
NFA Örneği

Okunan sembol



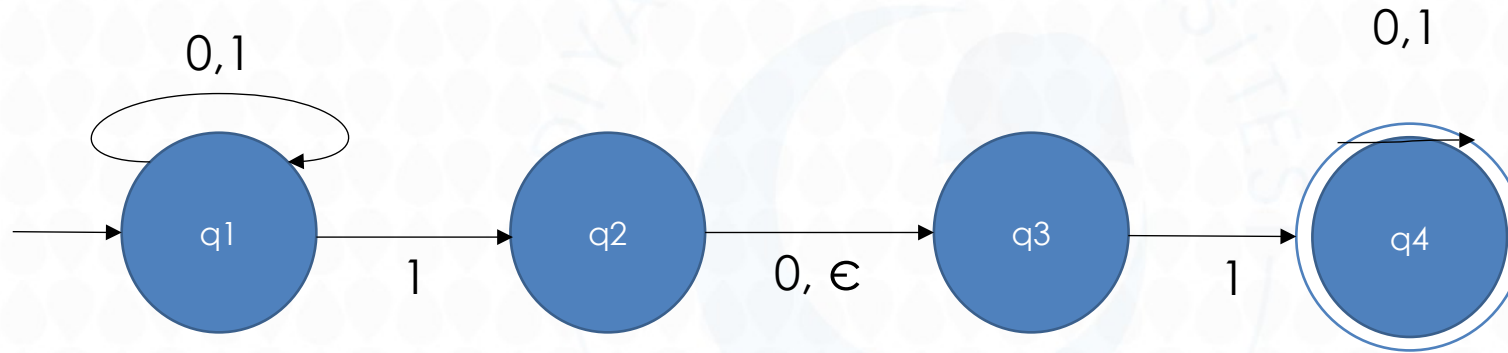
NFA Örneği

Okunan sembol



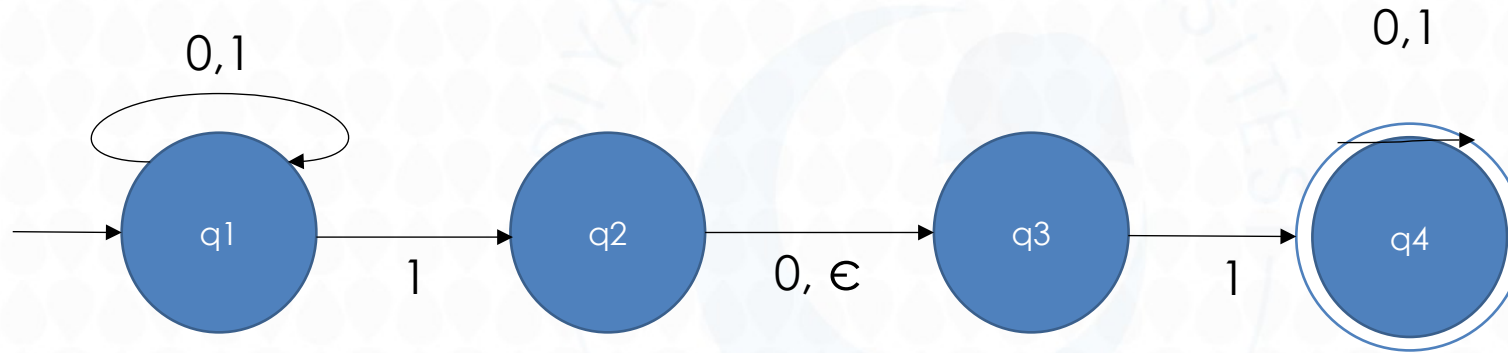
NFA Örneği

- N1 NFA'sı 010 string'ini kabul eder mi?



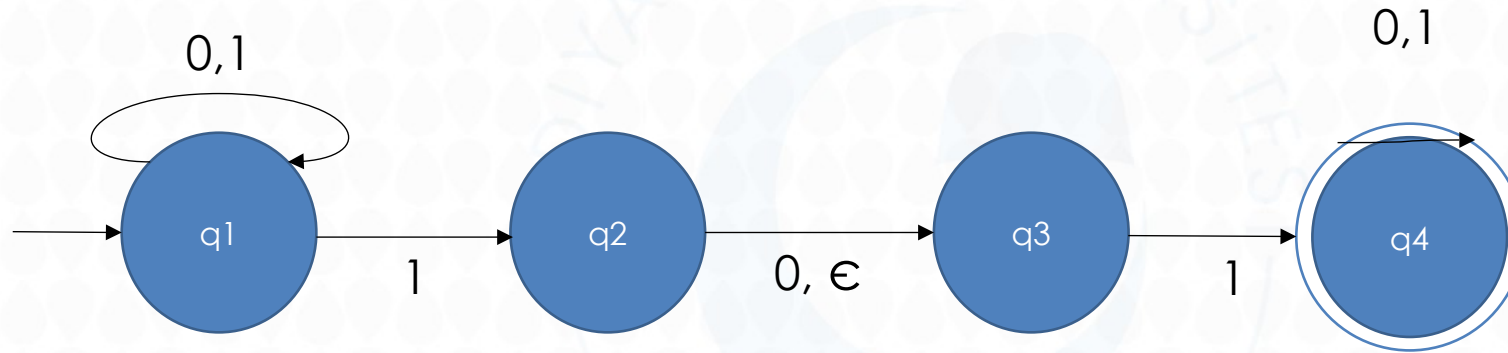
NFA Örneği

- N1 NFA'sı hangi alt string'leri kabul eder?



NFA Örneği

- N1 NFA'sı 101 veya 11 alt stringlerini içerecek tüm stringleri kabul eder

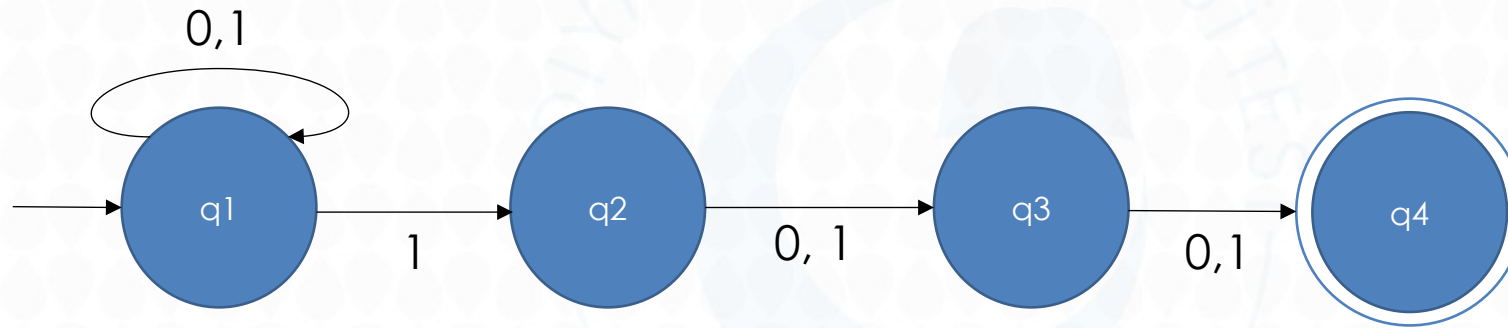


NFA Örneği

- $\{0,1\}$ alfabetesini içeren bir dilin kabul ettiği stringlerin sondan 3. rakamı 1'dir. Bu dil için NFA'yı çiziniz?
 - (Ör: **000100** string'ini kabul eder ancak **0011** string'ini kabul etmez)

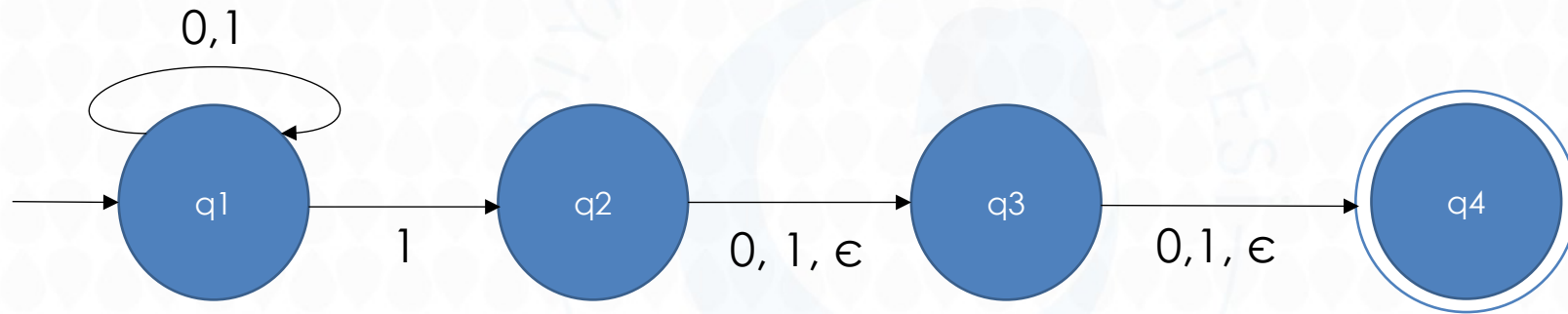
NFA Örneği

- Çözüm



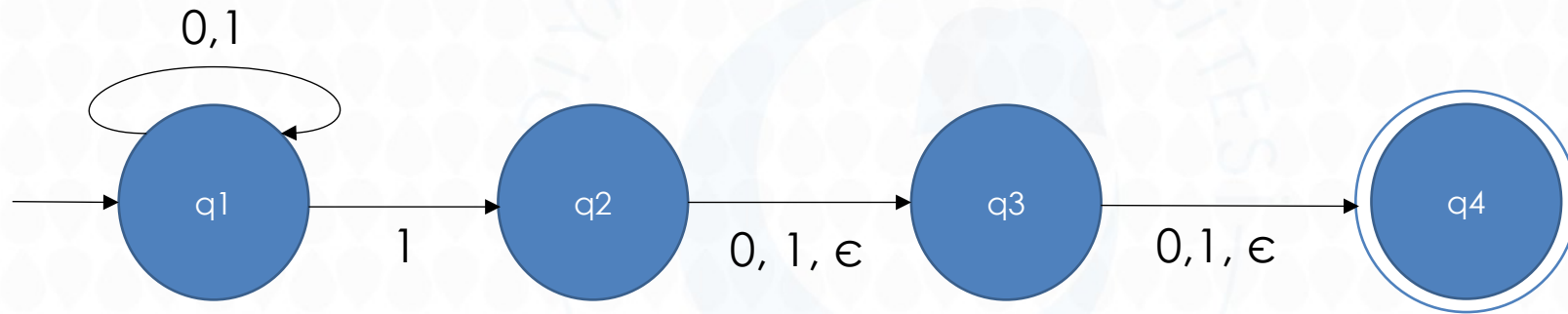
NFA Örneği

- Aşağıdaki NFA hangi stringleri kabul eder?



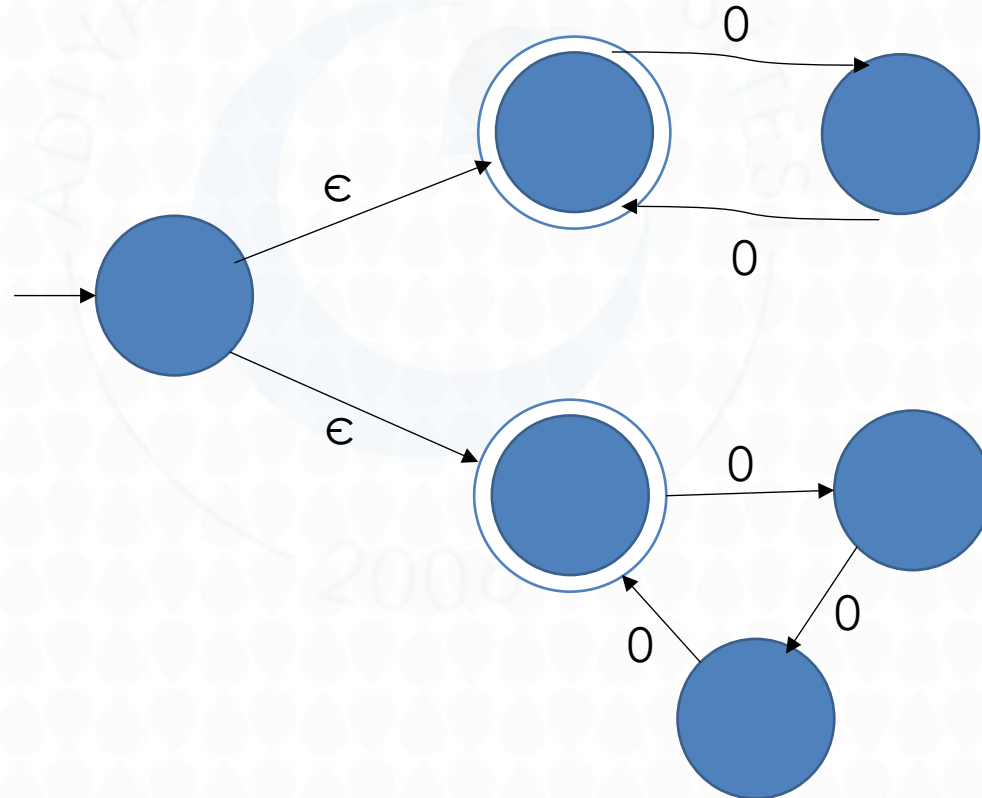
NFA Örneği

- İçerisinde en az 1 rakamını içerecek stringleri kabul eder.



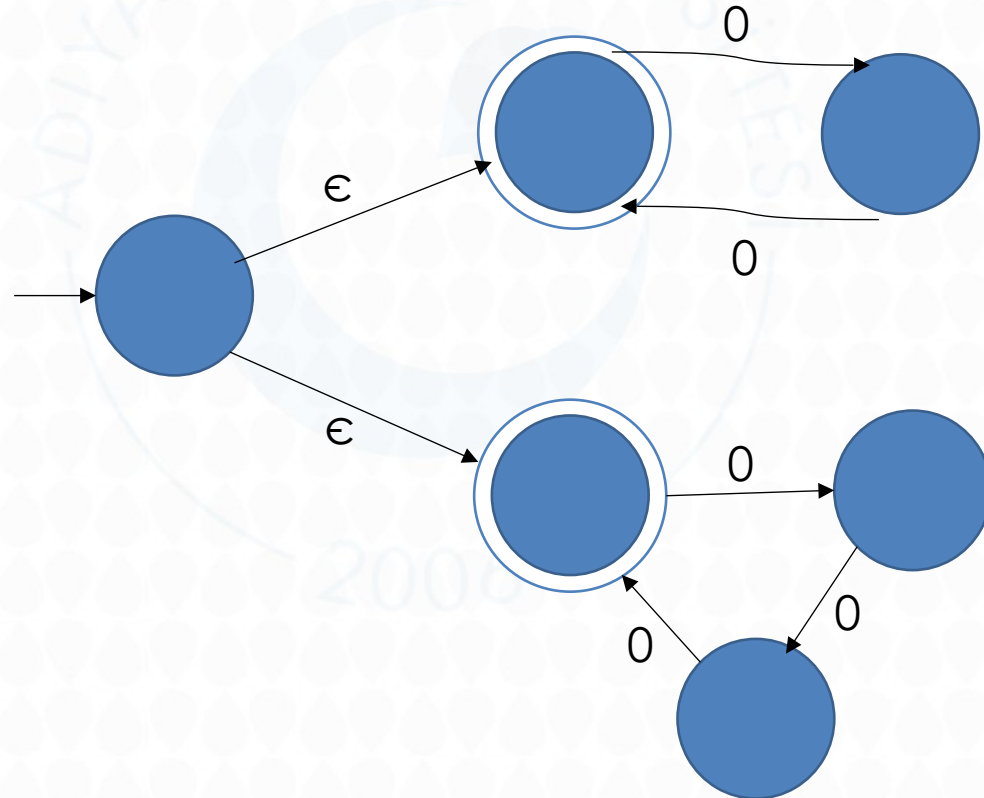
NFA Örneği

- Aşağıdaki NFA hangi stringleri kabul eder?



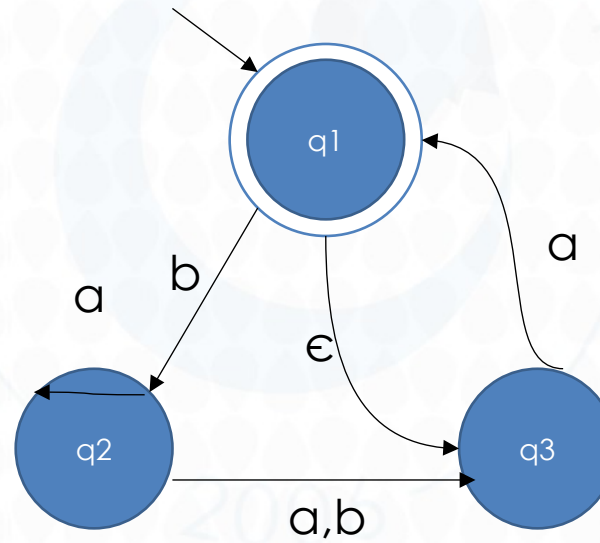
NFA Örneği

- 0'ın 2 katı veya 3 katı 0 içerecek stringleri kabul eder



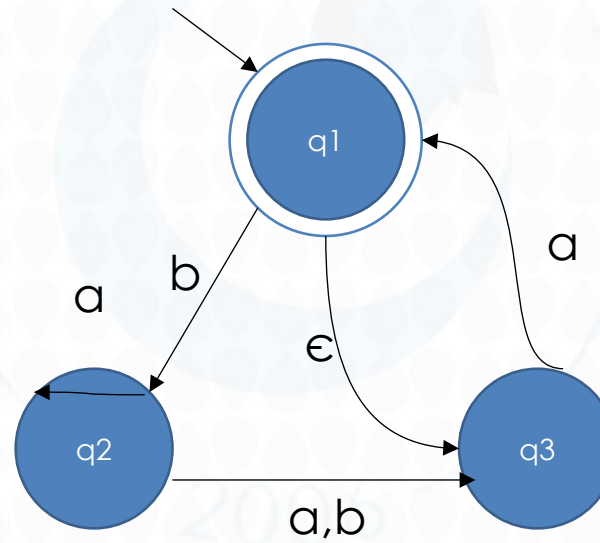
NFA Örneği

- Aşağıdaki NFA hangi stringleri kabul eder?



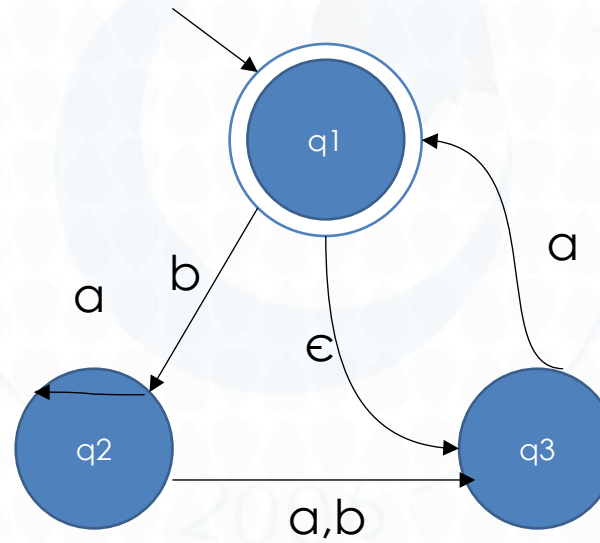
NFA Örneği

- a,baa,ε,... Stringlerini kabul eder.



NFA Örneği

- Boş string veya a ile biten ba haricindeki stringleri kabul eder





DERS SONU

Deterministic Finite Automata

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