Finding All Genes

Conceptual Understanding

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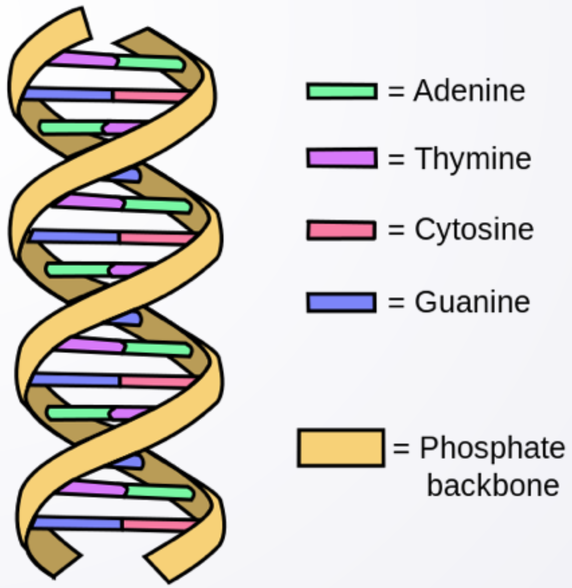
Searching for Many Genes

- We've seen the power of looping in using Iterables to access data and information
  - Use these techniques to find all genes in DNA
  - Algorithm for finding one gene: repeat



DNA

Searching for Many Genes

- We've seen the power of looping in using Iterables to access data and information
  - Use these techniques to find all genes in DNA
  - Algorithm for finding one gene: repeat
- Storing intermediate results
- Lets you process results
  - Lets you filter results
  - Iterable you add to with code

Needles in Haystacks—Genes in DNA

ATCGTATACTGAAAACAGCTTTGAGATTGTTAAACACCGAAGAGTTATGATTT
TCAGCGTTGAGGTCTAACCACTCAGCGATTATAGATGTGGAGGGTCTCTTCGC
TGTAAGCATACGACGGTCTAGAGCTGGGATGAGGCCCGAACACTGTTATGGGT
ACGGTTGTAAGTCTTGAAACGTCTTGGAGGGTGGGCCGCCCAAGTACTTGTCC
CAGGCGCGGGGTACCCGTATGCTTATCTTAAGGAGACGCGGTGAGAGTGGTCC
GAAAGCCCTGGATTCATCTTAGCATGCGGGAAATCCGAAGTTGGAAGGTGAGG
GACAGGAAACAATCTGATATGACCCTGTAGATCAACTCTGAACCCCGACATGT
CCGAGCGATACCGACTCTACACGGGTGATGCATATCGTTGCGCTCTCTTTATA
GAGATGATGCTGAATGGAAGAAAACCGCCACCCATCTCTAAGCGAACAGATTC
AATAATGGAACCGGCCGAACTATTTCATAGAATGCAACGACGTTTGACAAATA
ATGGCGTTCTATCCACTCAAATCTCCGTATACTAGCGTTATCACAGTCGCATA
ATTAAACGCCAAAAACAAAACGTATATGGCGTTGTAACGCTGCACATTACCCG
ACATCGTACAGTGCATCATTCTCCGGGAACCAAGCACAATGACTACTAAGCAT
TACCAGGGAACGCAGATGTCTATCAGCACACCCGTTTTGATTGAGAGACAGCT
TAATGTACGCAATTTGAGTAATACACCCTTCATGGTAGGGGACATGGAAGCCA
TACTGCAACCCTAGTATCACCTTAGAACGGCTACACACATTCGCACTTTCTCC
TACGCGGCAACTTGTCGACGTTCTTGAGACGCTGTCGAGTGTTCCCAGCTAGC
CTGGTCGGGACAATTATGACAACGGCAGTCCAGCATCATATGCCGCGAGCCGC
ACATTGGCTCCGTGTCACGCGCGATTGCTAGATCCGGGCA

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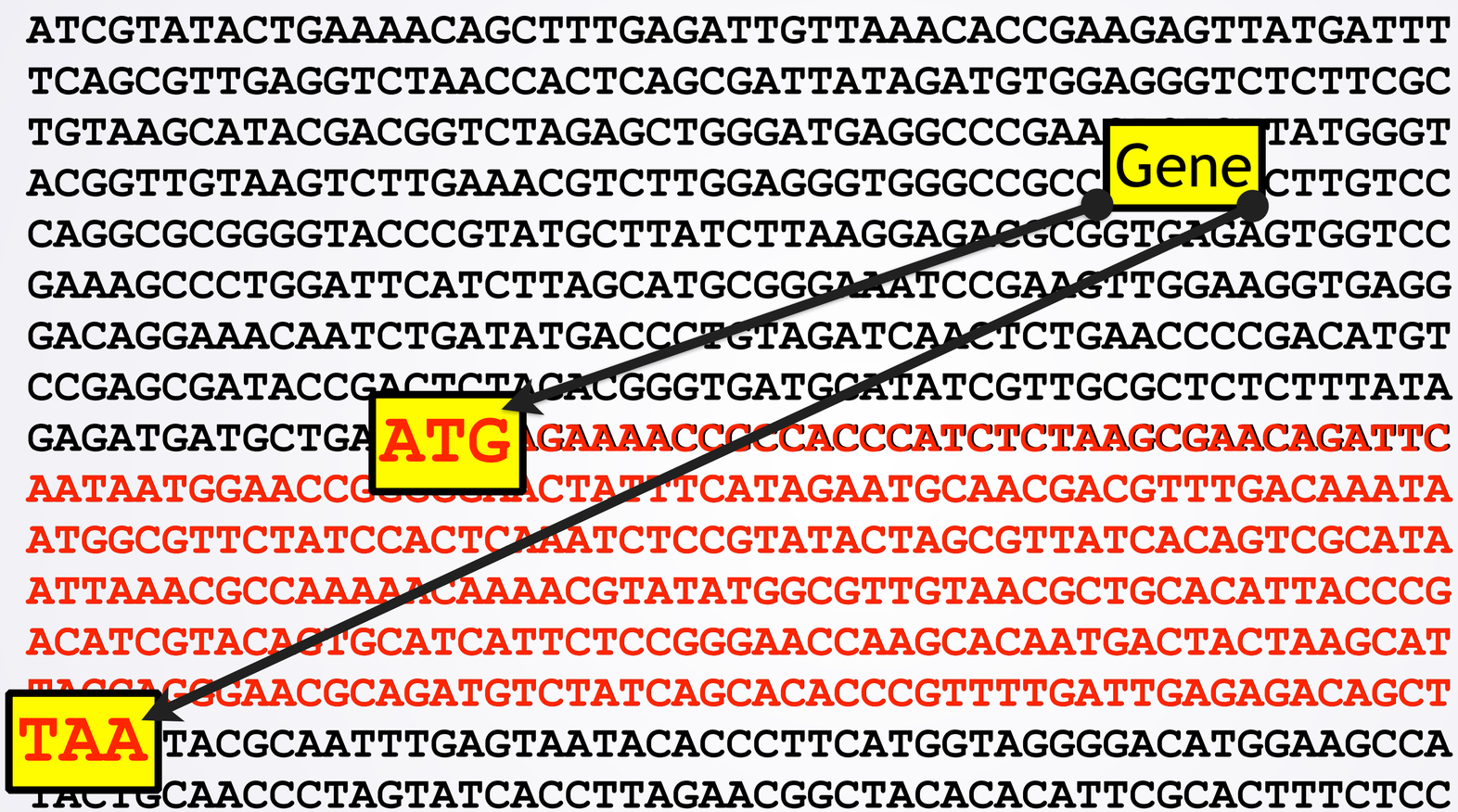

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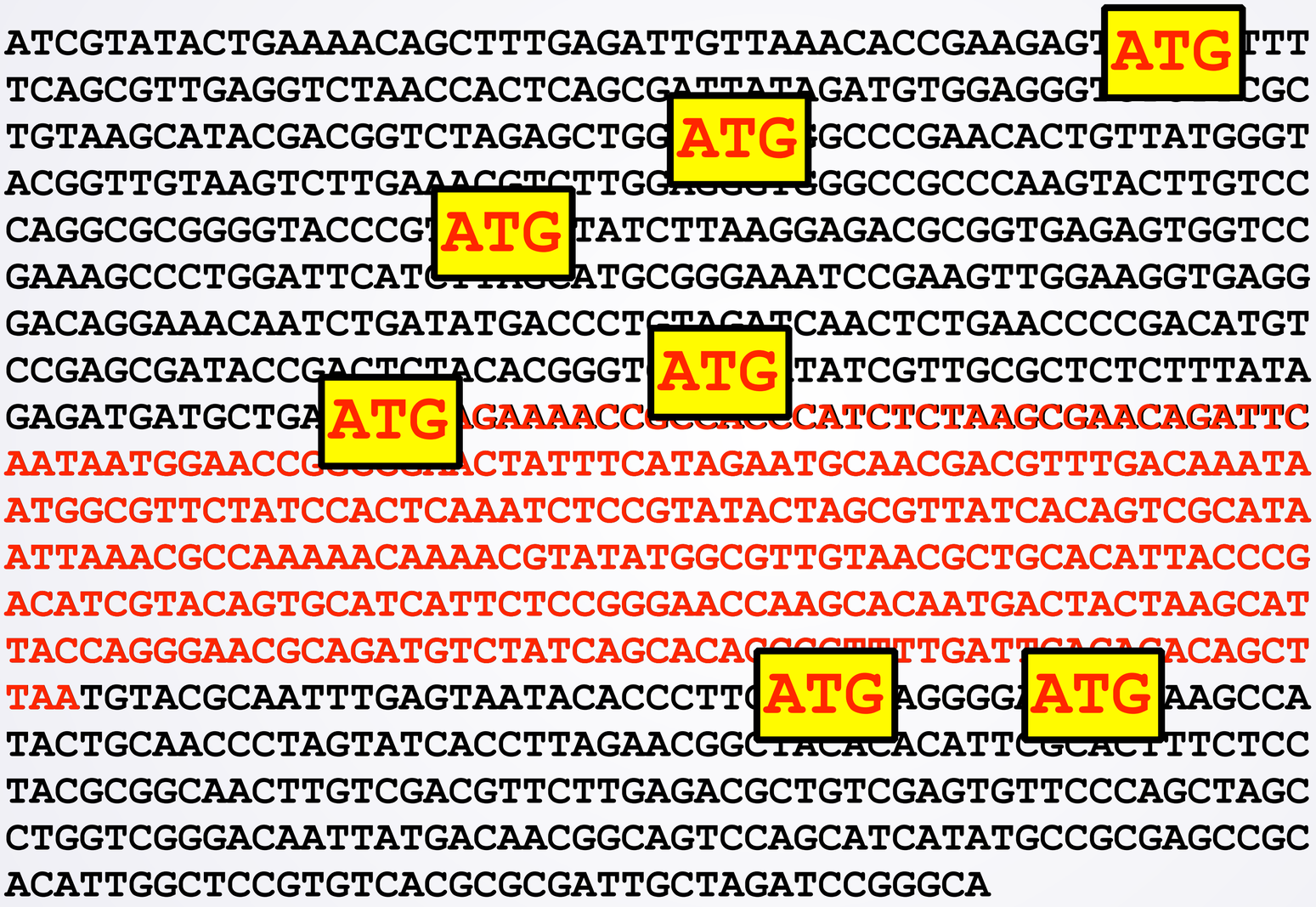

What You Will Learn

- How to repeat a process using a new form of loop in Java: the **while loop**
  - Complements the for loop with iterables
- Use of **StorageResource** in edu.duke library
  - Adding values, counting them, filtering them, preview of using arrays
- Short-circuited boolean evaluation
  - Helps in developing good coding practices