Algorithms and Data Structures for Data Science

lab_bst

CS 277

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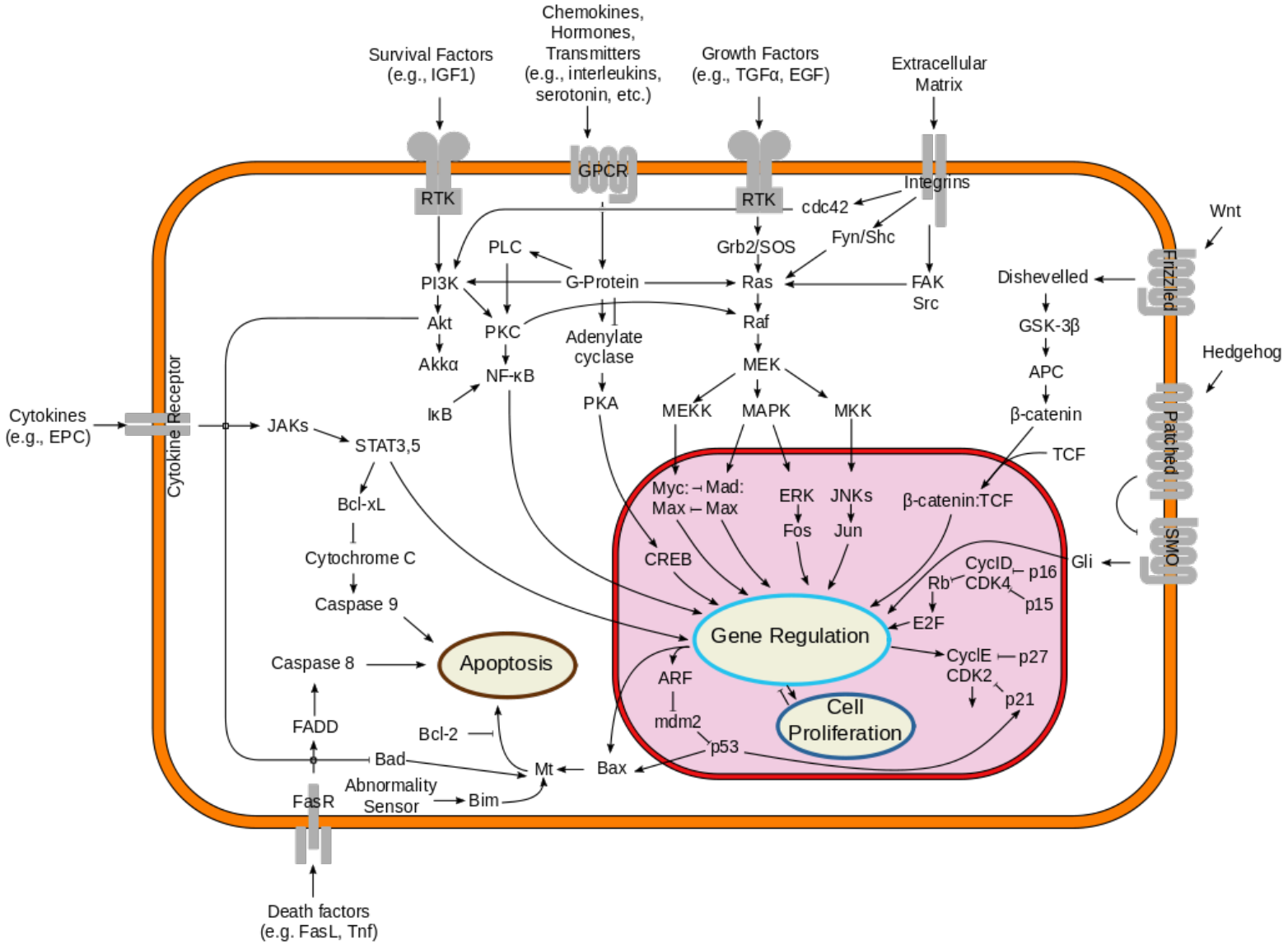
Learning Objectives

Practice storing information in a binary search tree

Use a BST to implement another data structure (Dictionary)

Practice handling (key, value) data pairs

Systems Biology

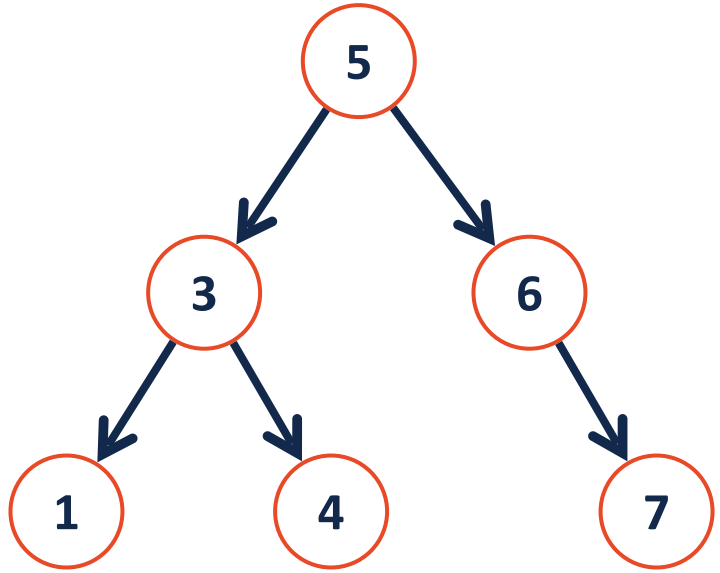


BST Insert

Base Case

Recursive Step

Combining



buildTree

geneID	length	Expression
367	529	4.5
163	785	4.8
18	428	6.6
737	799	1.6
502	278	4.9
941	484	47.7
219	456	3.0
491	473	4.6
953	704	30.6
739	819	30.2
361	298	82.2
524	736	6.8
702	570	66.9
466	414	9.9
820	383	53.8
546	588	33.0
643	961	3.8

Goal: Insert (geneID, expression) pairs

checkGenome

Expressed = [5, 3, 9]

Not Expressed = [2, 13]