

Data Structures and Algorithms Project

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01

Introduction





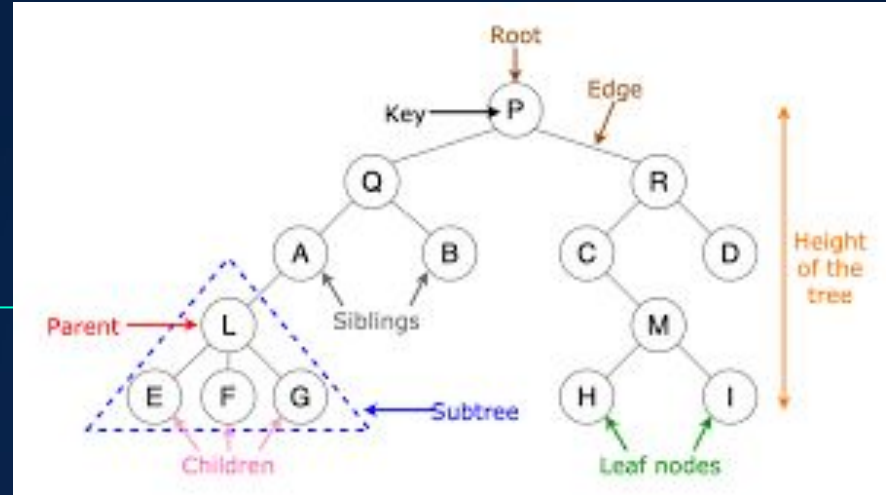
02

What is a Binary Tree?

What is a Binary Tree?

Binary Tree

A binary tree is a data structure which is used for storing data in an organized way.





03

What is Morse Code?

What is Morse Code?

Morse Code

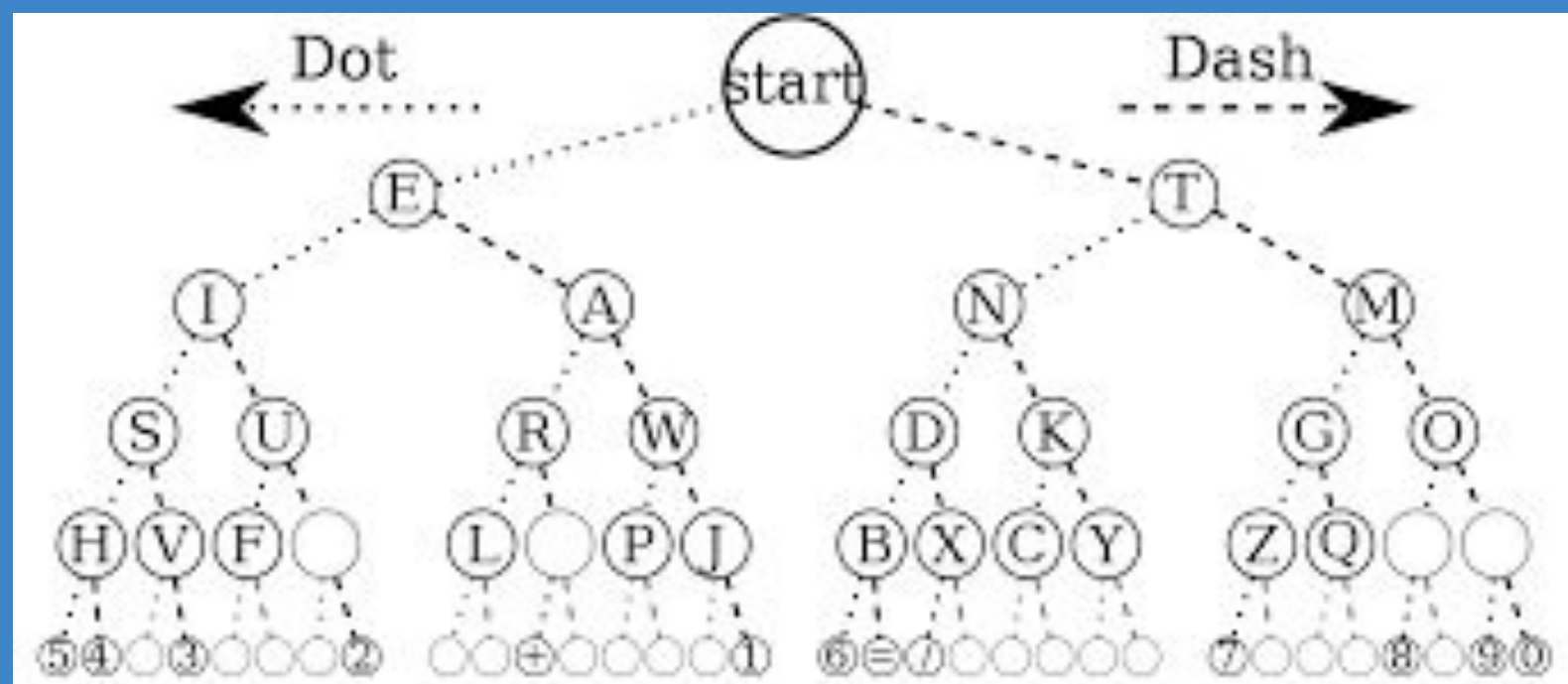
Morse Code is a way of sending messages without using any letters. Morse code uses dots and dashes to show letters, numbers, and punctuation.

A	• —	U	• • —
B	— • • •	V	• • • —
C	— • — •	W	• — —
D	— • •	X	— • • —
E	•	Y	— • — —
F	• • — •	Z	— — • •
G	— — •		
H	• • • •		
I	• •		
J	• — — —		
K	— • —		
L	• — • •	1	• — — — —
M	— —	2	• • — — —
N	— •	3	• • • — —
O	— — —	4	• • • • —
P	• — — •	5	• • • • •
Q	— — • —	6	— • • • •
R	• — •	7	— — • • •
S	• • •	8	— — — • •
T	—	9	— — — — •
		0	— — — — —

04

Morse Code in a Binary Tree and Its Implementation


```
int i;  
DataTable[0] = ".-"; DataTable[1] = "-...";  
DataTable[2] = "-.-."; DataTable[3] = "-..";  
DataTable[4] = "."; DataTable[5] = "..-";  
DataTable[6] = "--"; DataTable[7] = "....";  
DataTable[8] = ".."; DataTable[9] = ".---";  
DataTable[10] = "-.-"; DataTable[11] = "-.-.";  
DataTable[12] = "--"; DataTable[13] = "-.";  
DataTable[14] = "---"; DataTable[15] = ".--.";  
DataTable[16] = "--.-"; DataTable[17] = "-.-";  
DataTable[18] = "..."; DataTable[19] = "-";  
DataTable[20] = "..-"; DataTable[21] = "...-";  
DataTable[22] = ".--"; DataTable[23] = "-.-.-";  
DataTable[24] = "-.-.-"; DataTable[23] = "--..";  
DataTable[0] = ".-"; DataTable[25] = "-...";
```





05

Testing Our Code

```
Insert coded message: -- --- .-. ... . -.-. --- --. . .-. ... . .- -.- --- - ... .- -.-. --- -.-. .- ... .. - ---  
... .. - - - - - .- - - - .- .-. .- - - - .- .- .-  
Morse coded message is: -- --- .-. ... . -.-. --- --. . .-. ... . .- -.- --- - ... .- -.-. --- -.-. .- ... .. - ---  
- ... .. - - - - - .- - - - .- .-. .- - - - .- .- .-  
Message in English is: MORSE CODE USES DOTS AND DASHES TO SHOW THE LETTERS  
Continue(y/n)?y
```

morse code

```
-- --- .-. ... . -.-. --- --. . .-. ... . .- -.- --- - ... .- -.-. --- -.-. .- ... .. - ---  
... .. - - - - - .- - - - .- .-. .- - - - .- .- .-  
.-. .- - - - .- .- .-|
```

text

```
morsecodeusesdotsanddashes to show the letters
```

The background is a dark blue field filled with a complex network of thin white lines. These lines connect various small white dots of different sizes, creating a web-like or molecular structure. Some dots are larger and more prominent, acting as hubs in the network. The overall effect is a sense of interconnectedness and modern technology.

THANK YOU!