

## 5-way BTree Example – shown as a File

Kaminski / cs3310

### The actual BTree file (as an ASCII text file)

```
05 011 022
-1 ANN 03 -1 ANT 04 -1 APT 19 -1 ARE 01 -1
-1 BOT 05 -1 BUG 02 -1 ]]] 00 -1 ]]] 00 -1
18 AND 09 01 ART 07 09 BEG 43 02 BUN 44 06
-1 EEK 22 -1 EGG 69 -1 FAN 16 -1 FAT 48 -1
17 DVD 26 04 FIT 11 12 HAT 59 22 ]]] 00 -1
-1 CAM 20 -1 CAT 21 -1 ]]] 00 -1 ]]] 00 -1
-1 NOT 49 -1 ONE 66 -1 OWN 13 -1 RAM 27 -1
-1 INK 37 -1 ITS 60 -1 JAM 14 -1 ]]] 00 -1
-1 BAM 42 -1 BAT 41 -1 ]]] 00 -1 ]]] 00 -1
08 JET 17 07 RAT 35 21 ]]] 00 -1 ]]] 00 -1
03 CON 18 05 IMP 10 10 SAT 06 14 ]]] 00 -1
-1 GET 15 -1 GIG 24 -1 GOT 58 -1 HAM 68 -1
-1 WEB 55 -1 WOW 54 -1 WWW 33 -1 YES 61 -1
15 TON 65 16 USE 64 20 WAN 31 13 YOU 30 19
-1 SUN 51 -1 SYS 38 -1 TAN 39 -1 THE 08 -1
-1 TWO 34 -1 USA 29 -1 ]]] 00 -1 ]]] 00 -1
-1 CPU 47 -1 DAT 23 -1 DIP 70 -1 DOG 46 -1
-1 ALL 40 -1 AMY 45 -1 ]]] 00 -1 ]]] 00 -1
-1 YUP 56 -1 ZAK 63 -1 ZEN 32 -1 ZIP 62 -1
-1 VAT 52 -1 VEG 53 -1 ]]] 00 -1 ]]] 00 -1
-1 RED 50 -1 ROM 28 -1 SAM 36 -1 ]]] 00 -1
-1 HIP 25 -1 HOP 57 -1 HOT 12 -1 ICE 67 -1
```

HeaderRecord contains: M, RootPtr, N

BTree Node Records contain:

TP KV DRP TP KV DRP TP KV DRP TP KV DRP . . . TP

This would normally be a **BINARY** file instead, with node records using the format:

Array of M TPs that is, [0] to [M-1]

Array of M-1 KVs that is, [0] to [M-2]

Array of M-1 DRPs that is, [0] to [M-2]

### Display of data file with RRNs shown on left

(RRN's are not actually IN the file)

HeaderRec> 05 011 022

```
01> -1 ANN 03 -1 ANT 04 -1 APT 19 -1 ARE 01 -1
02> -1 BOT 05 -1 BUG 02 -1 ]]] 00 -1 ]]] 00 -1
03> 18 AND 09 01 ART 07 09 BEG 43 02 BUN 44 06
04> -1 EEK 22 -1 EGG 69 -1 FAN 16 -1 FAT 48 -1
05> 17 DVD 26 04 FIT 11 12 HAT 59 22 ]]] 00 -1
06> -1 CAM 20 -1 CAT 21 -1 ]]] 00 -1 ]]] 00 -1
07> -1 NOT 49 -1 ONE 66 -1 OWN 13 -1 RAM 27 -1
08> -1 INK 37 -1 ITS 60 -1 JAM 14 -1 ]]] 00 -1
09> -1 BAM 42 -1 BAT 41 -1 ]]] 00 -1 ]]] 00 -1
10> 08 JET 17 07 RAT 35 21 ]]] 00 -1 ]]] 00 -1
11> 03 CON 18 05 IMP 10 10 SAT 06 14 ]]] 00 -1
12> -1 GET 15 -1 GIG 24 -1 GOT 58 -1 HAM 68 -1
13> -1 WEB 55 -1 WOW 54 -1 WWW 33 -1 YES 61 -1
14> 15 TON 65 16 USE 64 20 WAN 31 13 YOU 30 19
15> -1 SUN 51 -1 SYS 38 -1 TAN 39 -1 THE 08 -1
16> -1 TWO 34 -1 USA 29 -1 ]]] 00 -1 ]]] 00 -1
17> -1 CPU 47 -1 DAT 23 -1 DIP 70 -1 DOG 46 -1
18> -1 ALL 40 -1 AMY 45 -1 ]]] 00 -1 ]]] 00 -1
19> -1 YUP 56 -1 ZAK 63 -1 ZEN 32 -1 ZIP 62 -1
20> -1 VAT 52 -1 VEG 53 -1 ]]] 00 -1 ]]] 00 -1
21> -1 RED 50 -1 ROM 28 -1 SAM 36 -1 ]]] 00 -1
22> -1 HIP 25 -1 HOP 57 -1 HOT 12 -1 ICE 67 -1
```