INF102mandatory2 – CGJ008

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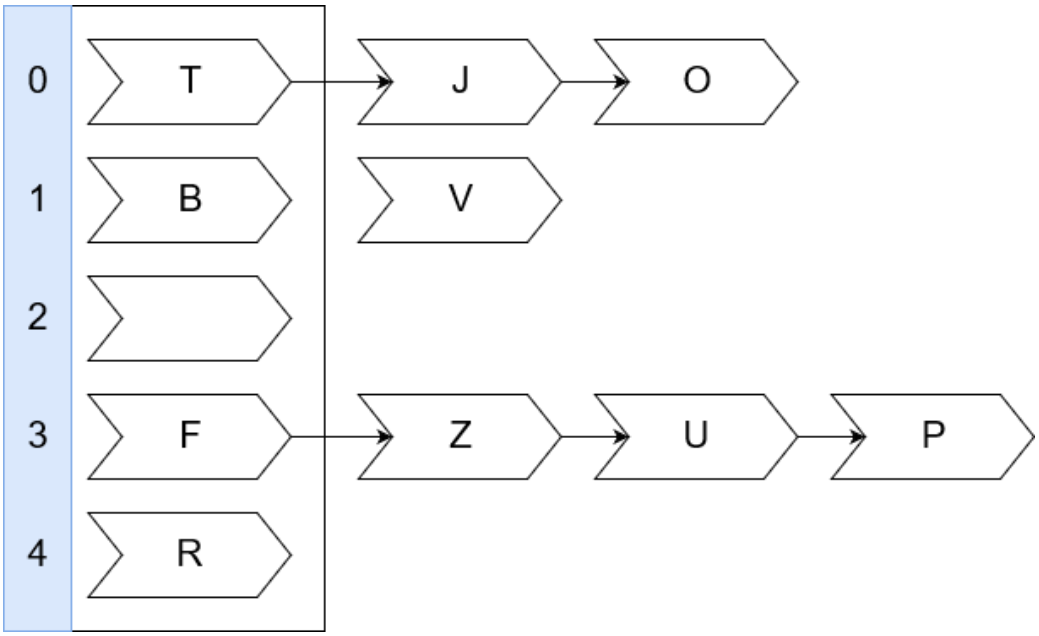
[1] Hash maps

a)



b)

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
P	**U**	**Z**	**J**	**T**	**O**					**B**	**R**			**F**	**V**

[3] Big-O Quiz part II

Function	f	O
a	$2n + m$	$O(n + m)$
b	$n * m + n$	$O(n * m)$
c	$min\{m, n\}$	$O(min\{m, n\})$
d	$(\log_2 n) * m + m$	$O(m * \log n)$
e	1	$O(1)$
f	$n * m + \left\lceil \frac{n}{2} \right\rceil$	$O(n * m)$

g	$n * m + n$	$O(n * m)$
h	$n + k$	$O(n + k)$
i	$\frac{n(n+1)}{2} * k$	$O(n^2 * k)$
j	$2n^2 + k^2 + 2nk$	$O(n^2 + k^2 + nk)$
k	$n + m$	$O(n + m)$
l	$n + m$	$O(n + m)$
m	$\left\lceil \frac{m}{n} \right\rceil$	$O\left(\frac{m}{n}\right)$
n	$\left\lfloor \frac{\log n}{\log k} \right\rfloor + 1$	$O(\log n)$
o	$\left\lceil \frac{n}{2k} \right\rceil$	$O\left(\frac{n}{k}\right)$
p	$\left\lfloor \frac{k^n - 1}{k - 1} \right\rfloor$	$O(k^{n-1})$