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ADS-2 Final exam

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**DETERMINE EMPIRICALLY THE RATIO OF PUT() AND GET() OPERATION IN BST**

**Question:** Determine empirically the ratio of the amount of time that BST spends on put() operations to the time that it spends on get() operations when Frequency Counter is used to ﬁnd the frequency of occurrence of values in 10000 randomly-generated integers.

# **Analysis:**

When generating random integers upto 10000 elements, we found that the No. of put() operation is approx to 20 lakhs whereas No.of get() operation is approx to 28 lakhs. There is a difference in 8 lakh operations , but when coming to the ratio analysis , it is 42 & 57 respectively which is not a big difference in ratio.

Now calculating the put()/get() ratio, we found that is 0.72 which is approx to 1.

As both the put() and get() operation has O(logN) complexity , it has almost same frequency .

No.of put() = 2096631.0

No.of get() = 2876139.0

put() ratio = 42.16

get() ratio = 57.83

put()/get() = 0.72 ~ 1 (approx).