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Swikar

```r
heat_rates <- c(14622, 13196, 11948, 11289, 11964, 10526, 10387, 10592, 10460, 10086,
                14628, 13396, 11726, 11252, 12449, 11030, 10787, 10603, 10144, 11674,
                11510, 10946, 10508, 10604, 10270, 10529, 10360, 14796, 12913, 12270,
                11842, 10656, 11360, 11136, 10814, 13523, 11183, 11183, 10951, 9722,
                10481, 9812, 9669, 9643, 9115, 9115, 11588, 10888, 9738, 9295,
                9421, 9105, 10233, 10186, 9918, 9209, 9532, 9933, 9152, 9295,
                16243, 14628, 12766, 8714, 9469, 11948, 12414)

mean_hr <- mean(heat_rates)
std_dev_hr <- sd(heat_rates)

mean_hr
```

```
## [1] 11064.85
```

```r
std_dev_hr
```

```
## [1] 1594.788
```

In this case, a Type I error would be if I concluded—basically, I would be jumping the gun and drawing the incorrect conclusion—that the high-pressure inlet fogging enhances the heat rate of gas turbines when, in fact, it does not. Conversely, a Type II mistake would be if I missed the boat and claimed that fogging has absolutely no effect when it does. In that instance, I would be mistaken in not seeing the true advantage of fogging in raising the heat rate. It's all about ensuring I avoid drawing hasty judgments or ignoring something vital.