**Result (problem-1)**

**Mean season wise**

Season: Rainy

Season Month Date Temperature

Rainy :122 Aug :31 Min. : 1.00 Min. :1.700

Summer: 0 Jul :31 1st Qu.: 8.00 1st Qu.:2.500

Winter: 0 Jun :30 Median :16.00 Median :2.900

Sep :30 Mean :15.75 Mean :3.039

Apr : 0 3rd Qu.:23.00 3rd Qu.:3.300

Dec : 0 Max. :31.00 Max. :5.000

(Other): 0

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Season: Summer

Season Month Date Temperature

Rainy : 0 Mar :31 Min. : 1.00 Min. :2.500

Summer:120 May :31 1st Qu.: 8.00 1st Qu.:2.800

Winter: 0 Apr :30 Median :15.50 Median :3.200

Feb :28 Mean :15.53 Mean :3.153

Aug : 0 3rd Qu.:23.00 3rd Qu.:3.400

Dec : 0 Max. :31.00 Max. :4.100

(Other): 0

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Season: Winter

Season Month Date Temperature

Rainy : 0 Dec :31 Min. : 1.00 Min. :1.900

Summer: 0 Jan :31 1st Qu.: 8.00 1st Qu.:2.400

Winter:123 Oct :31 Median :16.00 Median :2.600

Nov :30 Mean :15.88 Mean :2.701

Apr : 0 3rd Qu.:23.50 3rd Qu.:2.900

Aug : 0 Max. :31.00 Max. :3.900

(Other): 0

**Mean full year**

Season Month Date Temperature

Rainy :122 Aug : 31 Min. : 1.00 Min. :1.700

Summer:120 Dec : 31 1st Qu.: 8.00 1st Qu.:2.500

Winter:123 Jan : 31 Median :16.00 Median :2.900

Jul : 31 Mean :15.72 Mean :2.963

Mar : 31 3rd Qu.:23.00 3rd Qu.:3.300

May : 31 Max. :31.00 Max. :5.000

(Other):179

**Standard Deviation full year**

sd\_storage\_data = 0.508589

prob\_less\_two = 0.0291

prob\_above\_four = 0.0207

penalty = 10% of AMC

**Problem-2**

(a)

n=35

mu = 3.9

p\_value = 0.803

s = 0.508

xbar = 3.974

z\_test\_value = 0.865

(b) One Sample t-test

data: Temperature

t = 147.25, df = 34, p-value < 2.2e-16

alternative hypothesis: true mean is greater than 0

90 percent confidence interval:

3.939011 Inf

sample estimates:

mean of x

3.974286