R Assignment 4

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```r
# Creation of Brass Player data
brass <- c(4.7,4.6,4.3,4.5,5.5,4.9,5.3)
#Creation of Control data
control <- c(4.2,4.7,5.1,4.7,5.0,0,0)
data.frame("Brass"=brass, "Control"=control)
```

```
##   Brass Control
## 1   4.7     4.2
## 2   4.6     4.7
## 3   4.3     5.1
## 4   4.5     4.7
## 5   5.5     5.0
## 6   4.9     0.0
## 7   5.3     0.0
```

```r
# Creating dataframes in long format
Vital<-c(brass,control)
Group<- rep(c("Brass", "control"),c(length(brass),length(control)))
data.frame(Vital, Group)
```

```
##    Vital   Group
## 1    4.7   Brass
## 2    4.6   Brass
## 3    4.3   Brass
## 4    4.5   Brass
## 5    5.5   Brass
## 6    4.9   Brass
## 7    5.3   Brass
## 8    4.2 control
## 9    4.7 control
## 10   5.1 control
## 11   4.7 control
## 12   5.0 control
## 13   0.0 control
## 14   0.0 control
```

```
# t test and 95% confidence interval
t.test(Vital~Group, alternative="greater", conf.level=0.95)
```

```
##
##  Welch Two Sample t-test
##
## data:  Vital by Group
## t = 1.6102, df = 6.4172, p-value = 0.07763
## alternative hypothesis: true difference in means between group Brass and group control is greater tha
## 95 percent confidence interval:
##  -0.2782874       Inf
## sample estimates:
##   mean in group Brass mean in group control
##             4.828571              3.385714
```

```
# test assuming equal variance
t.test(Vital~Group, alternative="greater", conf.level=0.95, var.equal=TRUE)
```

```
##
##  Two Sample t-test
##
## data:  Vital by Group
## t = 1.6102, df = 12, p-value = 0.06666
## alternative hypothesis: true difference in means between group Brass and group control is greater tha
## 95 percent confidence interval:
##  -0.1541811       Inf
## sample estimates:
##   mean in group Brass mean in group control
##             4.828571              3.385714
```

Since the p-value is greater than the significance level, we cannot reject the null hypothesis. Therefore,the population mean for brass is larger than that for control.