

HW 4 Q1 Solutions

```
data <- read.table("Copier.txt", header=TRUE ,sep="")
```

Question (a)

```
result<-lm(Minutes~Serviced, data=data)
confint(result)
```

```
##              2.5 %    97.5 %
## (Intercept) -6.234843  5.074529
## Serviced    14.061010 16.009486
```

The 95% CI for the slope is (14.061010, 16.009486).

Question (b)

```
newdata <- data.frame(Serviced=5)
predict(result, newdata, interval="prediction")
```

```
##      fit      lwr      upr
## 1 74.59608 56.42133 92.77084
```

The 95% PI for the total service time for a service person who services 5 copiers is (56.42133, 92.77084) minutes.

Question (c)

```
result$residuals[1]
```

```
##      1
## -9.490339
```

The residual for the first observation is -9.490339 minutes. This means the total service time for the first service person is 9.490339 minutes shorter than his/her predicted total service time based on our regression equation.