

p.108 or lecture 9

hw-L Using either formula, compute
The r for the data in hw-J.

You may use R (or any other program) to
compute sample means and std. devs.

But you should use one of the 2 above
eqns for r to compute it.

```
# Using the expression in the book, page 108:
```

```
numerator = sum( (x - mean(x)) * (y - mean(y)) )  
denominator = sqrt( sum( (x - mean(x))^2 ) * sum( (y - mean(y))^2 ) )  
numerator/denominator
```

```
# gives 0.977739, which is exactly
```

```
cor(x,y)
```

```
# Alternatively, using the defining eqn given in lecture 9:
```

```
temp = ( x - mean(x) ) * ( y - mean(y) ) / (sd(x)*sd(y))  
sum(temp)/(length(x)-1)
```

```
# which gives the same answer: 0.977739 .
```