RGui (64-bit) - [C:\Users\shiha\Dropbox\1. STUDIEOS\STA201\Ass\ass3 bonus - R Editor]

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```
v <- c(90, 178, 547, 453, 189, 377, 264, 333, 289, 391, 320, 300,210, 310, 121, 154, 248, 292, 368, 423)
print(v)
#ANS TO 1(i,ii,iii):
print(mean(v))
print(var(v))
print(sd(v))
print(sqrt(v))
print(length(v))
#ANS TO Q 1(iv):
print(Reduce("+",v))
print(prod(v))
#ANS TO Q 2(i):
rooms = c(12,9,14,6,10)
kwh = c(9,7,10,5,8)
result = cor(rooms, kwh, method = "pearson")
cat("Pearson correlation coefficient is:", result)
#ANS TO Q 2(iii):
plot(rooms, kwh, pch = 19, col = "black")
#ANS TO Q 1(iii):
model <- lm(kwh ~ rooms)
print(model)
```

RGui (64-bit) - [R Console]

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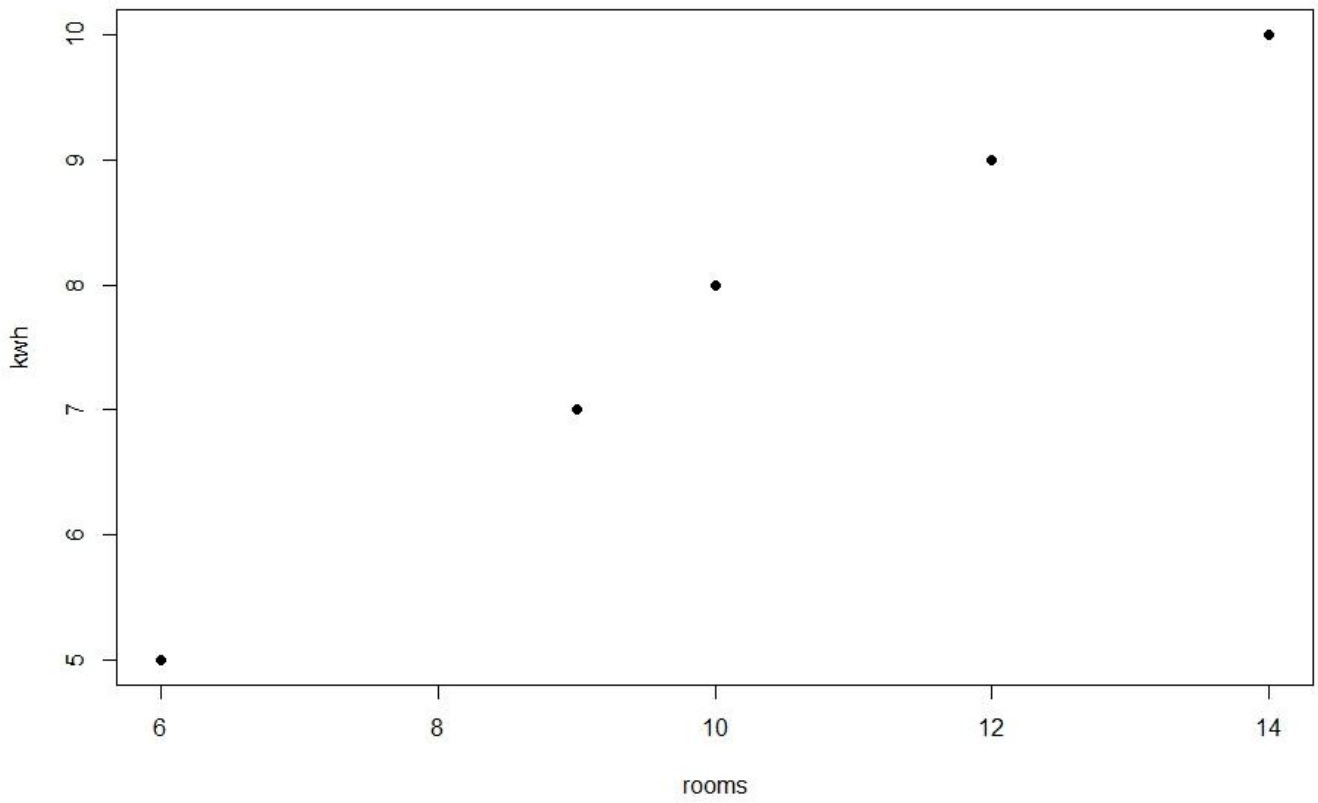
```
> v <- c(90, 178, 547, 453, 189, 377, 264, 333, 289, 391, 320, 300,210, 310, 121, 154, 248, 292, 368, 423)
> print(v)
 [1]  90 178 547 453 189 377 264 333 289 391 320 300 210 310 121 154 248 292 368
[20] 423
> #ANS TO 1(i,ii,iii):
> print(mean(v))
[1] 292.85
> print(var(v))
[1] 13468.13
> print(sd(v))
[1] 116.0523
> print(sqrt(v))
 [1]  9.486833 13.341664 23.388031 21.283797 13.747727 19.416488 16.248077
 [8] 18.248288 17.000000 19.773720 17.888544 17.320508 14.491377 17.606817
[15] 11.000000 12.409674 15.748016 17.088007 19.183326 20.566964
> print(length(v))
[1] 20
> #ANS TO Q 1(iv):
> print(Reduce("+",v))
[1] 5857
> print(prod(v))
[1] 3.688544e+48
> #ANS TO Q 2(i):
> rooms = c(12,9,14,6,10)
> kwh = c(9,7,10,5,8)
> result = cor(rooms, kwh, method = "pearson")
> cat("Pearson correlation coefficient is:", result)
Pearson correlation coefficient is: 0.9941072> #ANS TO Q 2(iii):
> plot(rooms, kwh, pch = 19, col = "black")
> #ANS TO Q 1(iii):
> model <- lm(kwh ~ rooms)
> print(model)

Call:
lm(formula = kwh ~ rooms)

Coefficients:
(Intercept)        rooms
     1.3696       0.6304
```


kwh
rooms
5
6
7
8
9
10
6
8
10
12
14