

In [1]:

```
# install.packages("readxl")  
library("readxl")
```

In [2]:

```
dataset <- read_excel("sat.xls")
```

In [3]:

```
head(dataset)
```

high_GPA	math_SAT	verb_SAT	comp_GPA	univ_GPA
3.45	643	589	3.76	3.52
2.78	558	512	2.87	2.91
2.52	583	503	2.54	2.40
3.67	685	602	3.83	3.47
3.24	592	538	3.29	3.47
2.10	562	486	2.64	2.37

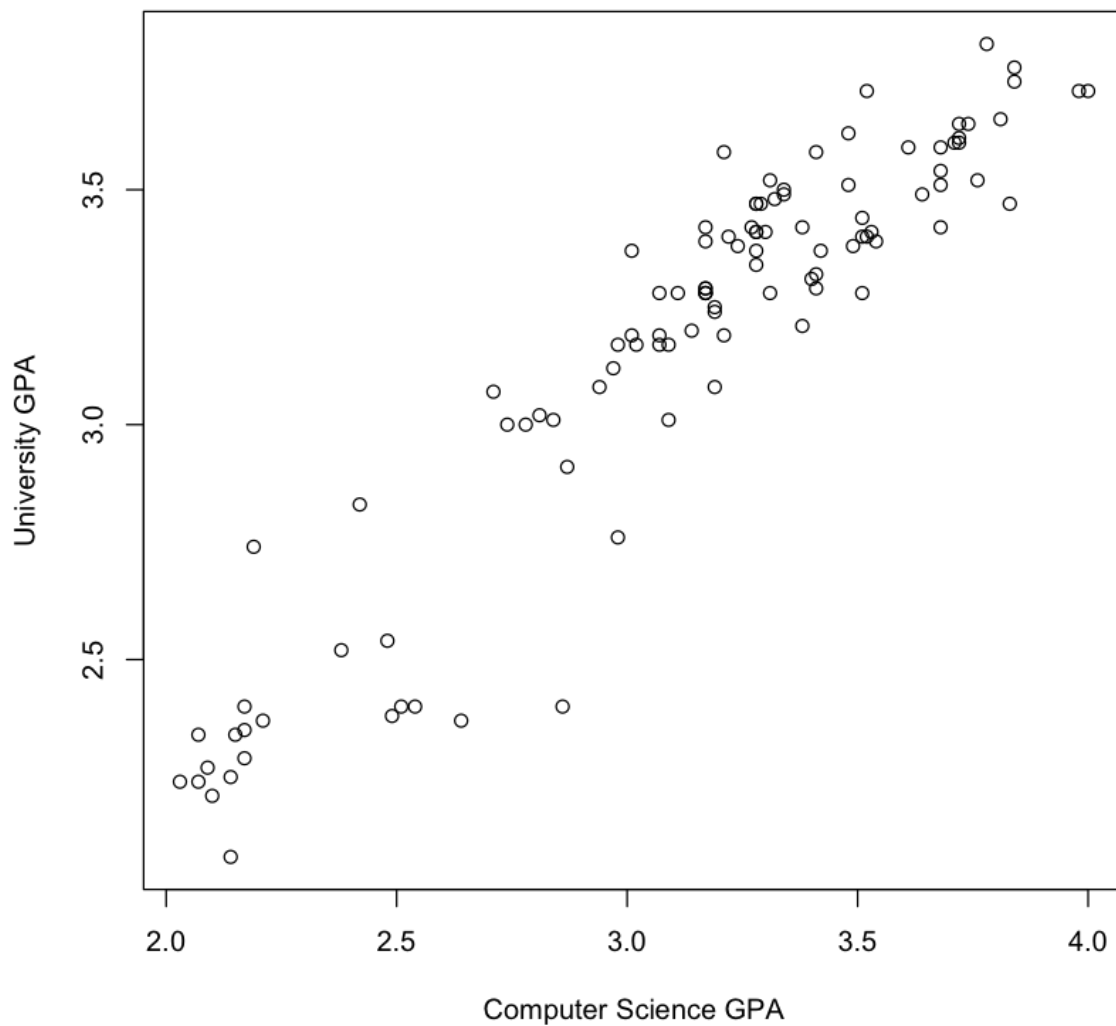
In [4]:

```
str(dataset)
```

```
Classes 'tbl_df', 'tbl' and 'data.frame':      105 obs. of  5 variables:  
 $ high_GPA: num  3.45 2.78 2.52 3.67 3.24 2.1 2.82 2.36 2.42 3.51 ...  
 $ math_SAT: num  643 558 583 685 592 562 573 559 552 617 ...  
 $ verb_SAT: num  589 512 503 602 538 486 548 536 583 591 ...  
 $ comp_GPA: num  3.76 2.87 2.54 3.83 3.29 2.64 2.86 2.03 2.81 3.41  
 ...  
 $ univ_GPA: num  3.52 2.91 2.4 3.47 3.47 2.37 2.4 2.24 3.02 3.32 ...
```

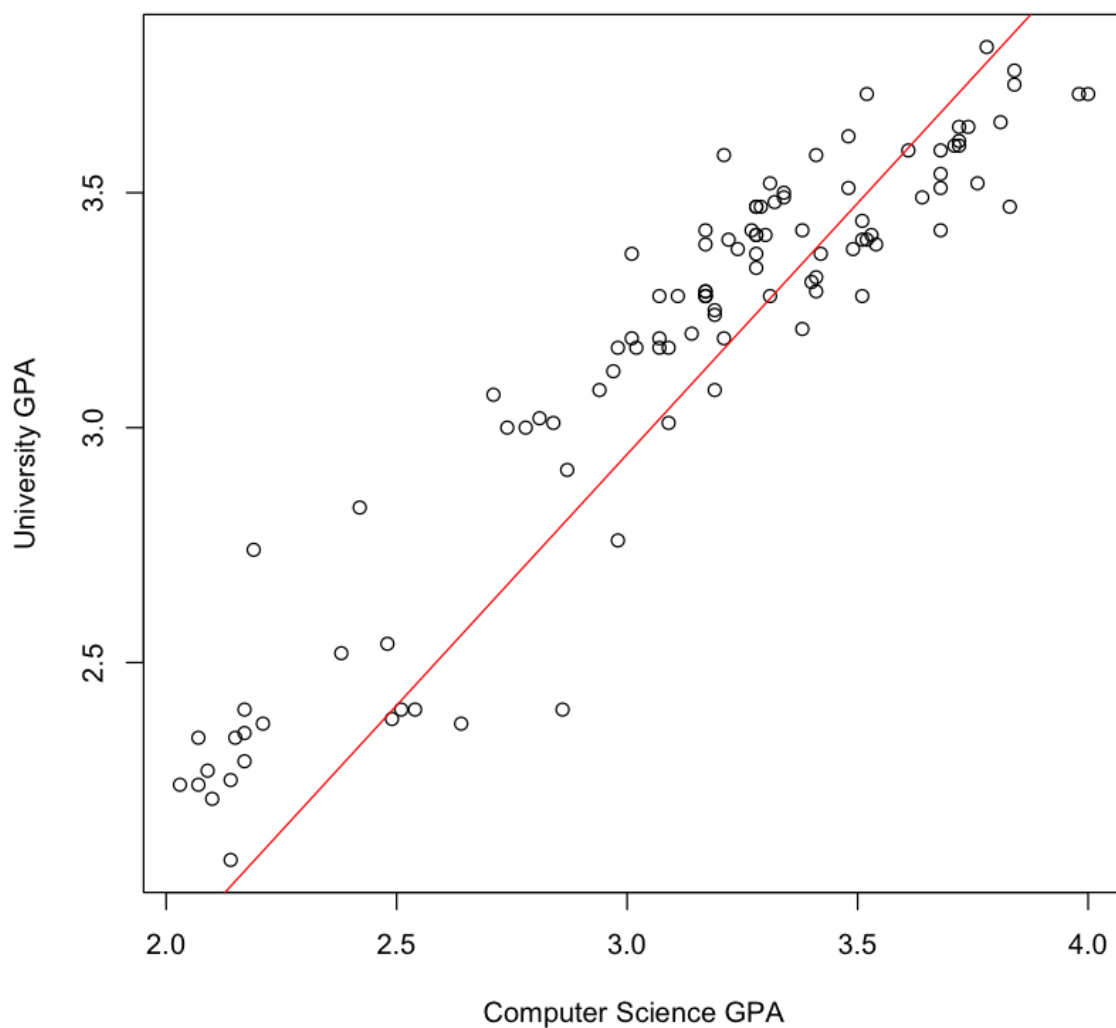
In [5]:

```
plot(dataset$comp_GPA, dataset$univ_GPA, xlab="Computer Science GPA", ylab="Universi
```



In [6]:

```
plot(dataset$comp_GPA, dataset$univ_GPA, xlab="Computer Science GPA", ylab="University GPA",  
abline(lm(dataset$comp_GPA~dataset$univ_GPA), col="red"))
```



In [7]:

```
cor(dataset$comp_GPA, dataset$univ_GPA, method="pearson")
```

0.939045879842447

In [8]:

```
data.cor = cor(dataset)
data.cor
```

	high_GPA	math_SAT	verb_SAT	comp_GPA	univ_GPA
high_GPA	1.0000000	0.7681423	0.7261478	0.7914721	0.7795631
math_SAT	0.7681423	1.0000000	0.8352272	0.6877209	0.6627837
verb_SAT	0.7261478	0.8352272	1.0000000	0.6387512	0.6503012
comp_GPA	0.7914721	0.6877209	0.6387512	1.0000000	0.9390459
univ_GPA	0.7795631	0.6627837	0.6503012	0.9390459	1.0000000

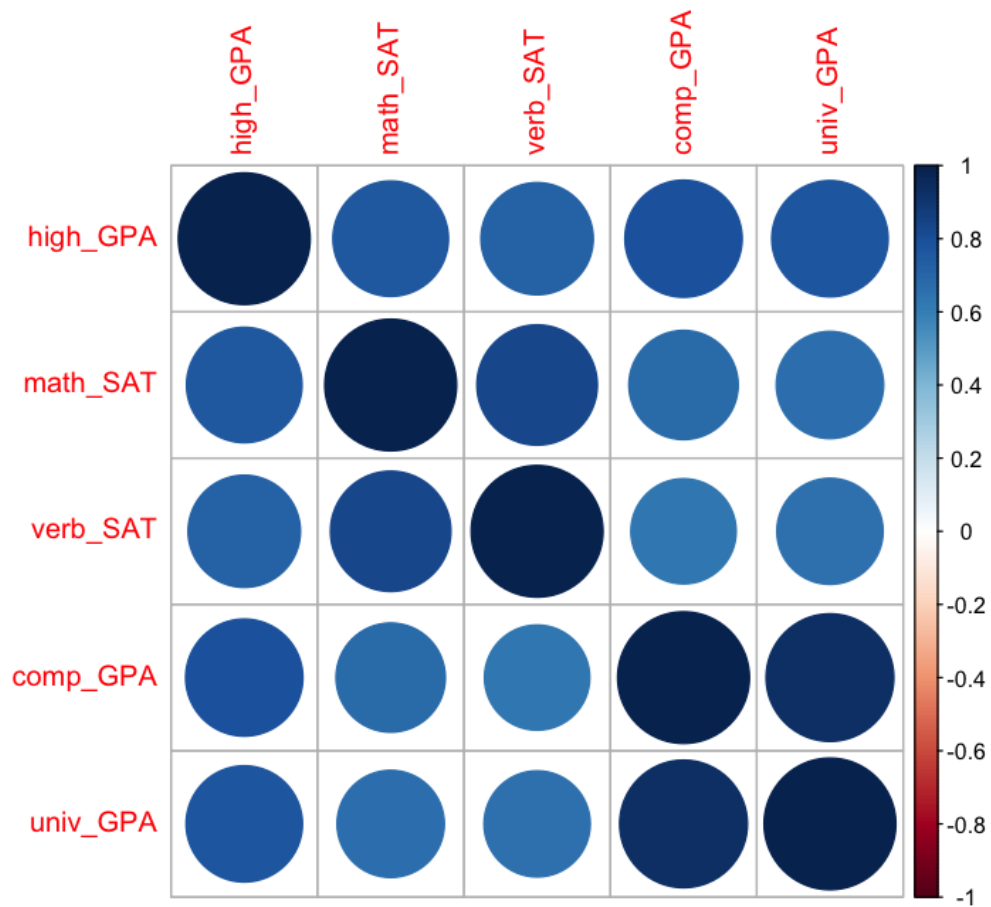
In [9]:

```
install.packages("corrplot")
library(corrplot)
```

```
Updating HTML index of packages in '.Library'
Making 'packages.html' ... done
corrplot 0.84 loaded
```

In [10]:

```
corrplot(data.cor)
```



In [11]:

```
palette = colorRampPalette(c("green", "white", "red")) (20)
heatmap(x = data.cor, col = palette, symm = TRUE)
```

