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* KHOONG WEI HAO ST2137 Tutorial 5 T03;
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* Q2(a);
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```
proc format;  
  value $stresslvl "H" = "High"  
    "M" = "Moderate"  
    "L" = "Low";  
  value $comtime "S" = "Short, Under 15 minutes"  
    "M" = "Moderate, 15-45 minutes"  
    "L" = "Long, Over 45 minutes";
```

```
data t5q2;  
  infile "~/data/stress.txt" firstobs=2;  
  input stress $ time $;  
  format stress $stresslvl.  
    time $comtime.;
```

```
proc freq data=t5q2;  
  title "Chi-square test for the related samples";  
  tables stress*time/chisq;  
run;
```

* Ans: H_0 : Stress level and commuting time are independent. Since the observed Chi-square = 9.8311 > Chi-square_{0.05(4)} = 9.48 or p-value = 0.034, reject H_0 ;

```
* Q2(b);
```

```
proc sgpanel data=t5q2;  
  panelby time;  
  vbar stress/group=stress;  
run;
```