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* KHOONG WEI HAO ST2137 Tutorial 6 T03;
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```
* Q1 (a);
```

```
proc format;
```

```
  value $oldnew "O" = "Old" "N" = "New";
```

```
data t6q1;
```

```
  infile "~/data/machine.txt" firstobs=2;
```

```
  input strength machine $;
```

```
  label strength = "Breaking strength";
```

```
  format machine $oldnew.;
```

```
proc ttest data=t6q1;
```

```
  title "Tutorial 6 Question 1 t-test";
```

```
  class machine;
```

```
  var strength;
```

```
run;
```

```
* Ans: Since the observed t-value = 3.93 > t0.05 (98) = 1.66 or p-value = 7.9*10-5, we reject H0  
where H0:  $\mu_N - \mu_O = 0$ .;
```

```
* Q1(b);
```

```
* Ans: We assumed equal variances. Since Fobs = 1.26 < F0.05(49,49) = 1.26 or p-value = 0.4268, we do not  
reject H0, where H0:  $\sigma_N^2 = \sigma_O^2$  against H1:  $\sigma_N^2 \neq \sigma_O^2$ .;
```