```
\begin{array}{c} \textbf{theory} \ \textit{Problem-1A} \\ \textbf{imports} \ \textit{HOL-Algebra}. \textit{Algebra} \\ \textbf{begin} \end{array}
```

It seems that one cannot use \heartsuit as variable. My disappointment is immeasurable and my day is ruined.

```
theorem problem1A:
 assumes group: group G
 assumes subgrp: subgroup H G
 assumes proper: H \subset carrier G
 assumes iso: G \cong G(carrier := H)
 shows infinite (carrier G)
 from iso obtain h where bij: bij-betw h (carrier G) H
   unfolding is-iso-def iso-def by auto
 assume finite: finite (carrier G)
 with proper have card\ H < card\ (carrier\ G)
   by (simp add: psubset-card-mono)
 moreover from finite and bij have card H = card (carrier G)
   using bij-betw-same-card by fastforce
 ultimately show False by auto
qed
end
```