

## CS681 – HomeWork 12

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**Race conditions can occur if you do not guard the “changed” variable with a lock. Explain a potential race condition with a diagram like in the previous slide.**

In this scenario all the operations depend on boolean variable ‘changed’.

Method save() checks if the file is changed or not. If it returns **true** it will save the file and otherwise it won't

Similarly AutoSaver() is runnable class and calls save() method periodically.

Now as we are using multiple threads here shared variable ‘changed’ is accessed by multiple threads and may return false value to save() method. Which may result not saving the document and same for AutoSaver(). Similarly it can return value true even if file is not changed and may result in save() to save the file for no use.

Diagram :

