CSc 120
Introduction to Computer Programming II

CODE EXAMPLES 04
Some code from assg 5
1. Parsing input lines

class Team:

    def __init__(self, info):
        conf_start = info.rfind('(')
        conf_stop = info.rfind(')')
        conf_name = info[conf_start+1:conf_stop]
        team_name = info[:conf_start]
        info_rest = info[(conf_stop+1):]
        info_list = info_rest.split()

        self._name = team_name.strip()
        self._conf = conf_name

...
2. Creating a ConferenceSet

```python
def main():
   ..
    confs = ConferenceSet()
    infile = open(infile_name)
    for line in infile:
        if line[0] == '#':  # skip comments
            continue
        team = Team(line)
        confs.add(team)
    ..
3. Adding a team to a ConferenceSet

class ConferenceSet:
    ...
    def add(self, team):
        for conf in self._confs:
            if team.conf() == conf.name():
                conf.add(team)
                assert team in conf
        return

newconf = Conference(team.conf())
newconf.add(team)
self._confs.append(newconf)
4. Adding a team to a ConferenceSet

class Conference:
    def __init__(self, name):
        self._name = name
        self._teams = []

    def add(self, team):
        assert team.conf() == self._name
        self._teams.append(team)
Some style comments
def add(self, team):  # adding to ConferenceSet
    flag = False
    conference_name = team.conf()
    if len(self._list) == 0:
        conference = Conference(conference_name)
        conference.add(team)
        self._list.append(conference)
    else:
        for i in range(0, len(self._list)):
            if conference_name == self._list[i].name():
                flag = True
                self._list[i].add(team)
        if flag == False:
            conference = Conference(conference_name)
            conference.add(team)
            self._list.append(conference)
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        if conference_name == conf.name():
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            conf.add(team)
    return
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        conference = Conference(conference_name)
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• search self._list for the conference
• if found, add team to it
• then we're done: return

if we got here, we didn't find it
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conference = Conference(conference_name)
conference.add(team)
self._list.append(conference)
Before and after

original

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```

cleaned-up

```python
def add(self, team):
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    for conf in self._list:
        if conference_name == conf.name():
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conference = Conference(conference_name)
conference.add(team)
self._list.append(conference)```
Summary

• Use `for ... in` to iterate through a list or dictionary

• Be *extremely* suspicious of flags
  – very often, they complicate the code unnecessarily
  – very often, code restructuring can get rid of them
  – if you *really* need a flag, give it a descriptive name

• Examine the code for repeated code blocks
  – understand:
    o what they are doing
    o why they are repeated
  – figure out:
    o can the repetition be eliminated?

• Flags + repetition ≡ bad