

(a) Optimize code structure

```
1 public Point2D transform(Point2D p){
2   if (p == null)   return null;
3   return transform.transform(p, null);
4 }
```

```
1 public Point2D transform(Point2D p) {
2   return p == null ? null : transform.transform(p, null);
3 }
```

(b) Optimize variable name

```
1 public static void clearRecentFiles() {
2   String str = ProgramProperties.get(RECENTFILES, "");
3   if (str.length() != 0) {
4     ProgramProperties.put(RECENTFILES, "");
5     notifyListChange(RECENTFILES);
6   }
7 }
```

```
1 public static void clearRecentFiles() {
2   String recentFiles = ProgramProperties.get(RECENTFILES, "");
3   if (recentFiles.length() != 0) {
4     ProgramProperties.put(RECENTFILES, "");
5     notifyListChange(RECENTFILES);
6   }
7 }
```

(c) Optimize exception handling

```
1 public String writeDataFile() throws DataFileException {
2   ByteArrayOutputStream bos = new ByteArrayOutputStream();
3   writeDataFile(bos);
4   String outString = bos.toString();
5   try {
6     if (bos != null)
7       bos.close();
8   } catch (IOException e) {
9     Debug.logWarning(e, module);
10  }
11  return outString;
12 }
```

```
1 public String writeDataFile() throws DataFileException {
2   try (ByteArrayOutputStream bos = new
3     ByteArrayOutputStream()) {
4     writeDataFile(bos);
5     return bos.toString();
6   } catch (IOException e) {
7     Debug.logWarning(e, module);
8     return "";
9   }
```

(d) Delete redundant code

```
1 def _maybe_get_pandas_wrapper(X, trim_head=None,
trim_tail=None):
2   if _is_using_pandas(X, None):
3     return _get_pandas_wrapper(X, trim_head, trim_tail)
4   else:
5     return
```

```
1 def _maybe_get_pandas_wrapper(X, trim_head=None,
trim_tail=None):
2   if _is_using_pandas(X, None):
3     return _get_pandas_wrapper(X, trim_head, trim_tail)
```

(e) Complete missing code

```
1 def parse_time(value):
2   match = time_re.match(value)
3   if match:
4     kw = match.groupdict()
5     if kw['microsecond']:
6       kw['microsecond'] = kw['microsecond'].ljust(6, '0')
7     kw = dict(((k, int(v)) for (k, v) in six.iteritems(kw) if (v is not
None)))
8     return datetime.time(**kw)
```

```
1 def parse_time(value):
2   time_re = re.compile(r'^(?P<hour>[0-2]?[0-9])?(?P<minute>[0-
5]?[0-9])?(?P<second>[0-5]?[0-9])?(?\.?(?P<microsecond>\d{1,6}))?$')
3   match = time_re.match(value)
4   if match:
5     kw = match.groupdict()
6     if kw['microsecond']:
7       kw['microsecond'] = kw['microsecond'].ljust(6, '0')
8     kw = dict(((k, int(v)) for (k, v) in six.iteritems(kw) if (v is not
None)))
9     return datetime.time(**kw)
```