QGIS makes a hard crash when the createInstance() method calls a non-existent constructor in a python processing script class (QgsProcessingAlgorithm).

This is an easy error to make after creating a new script from a template.

**Reproduction**

Steps:
- Create a new script in the Processing Toolbox using 'Create New Script from Template…'
- Rename class ExampleProcessingAlgorithm to anything else (such as MyProcessingAlgorithm). Leave reference to ExampleProcessingAlgorithm() in createInstance().
- Save template script
- Execute script by double-clicking it in Scripts/Example scripts/My script
- ‘:( QGIS Crashed’ dialog

**Result**

Crash ID: 4e33457d15a27ee43b8270be864ceb43b1208535

Stack Trace

QgsProcessingAlgorithm::setProvider:
QgsProcessingAlgorithm::create:
PInit__core:
PyMethodDef_RawFastCallKeywords:
PyMethodDef_RawFastCallKeywords:
PyEval_EvalFrameDefault:
PyFunction_FastCallDict:
PyMethodDef_RawFastCallDict:
PyObject_Call:
PyInit_QtCore:
PyInit_QtCore:
PyInit_QtCore:
PyInit_QtCore:
PyInit_QtCore:
QMetaObject::activate:
QAbstractItemView::doubleClicked:
QTreeView::mouseDoubleClickEvent:
QWidget::event:
QFrame::event:
QAbstractItemView::viewportEvent:
QCoreApplicationPrivate::sendThroughObjectEventFilters:
QApplicationPrivate::notify_helper:
QApplication::notify:
QgsApplication::notify:
QCoreApplication::notifyInternal2:
QGIS Info
QGIS Version: 3.4.4-Madeira
QGIS code revision: f6ddc62f6bd
Compiled against Qt: 5.11.2
Running against Qt: 5.11.2
Compiled against GDAL: 2.4.0
Running against GDAL: 2.4.0

System Info
CPU Type: x86_64
Kernel Type: winnt
Kernel Version: 10.0.17134

Associated revisions
Revision 8db38af - 2019-02-18 03:21 PM - Alessandro Pasotti
Processing: fix crash in alg runner task with bad scripts
Fixes #21270
With test

History
#1 - 2019-02-16 10:54 AM - Giovanni Manghi
- Priority changed from Normal to High

#2 - 2019-02-18 02:47 PM - Alessandro Pasotti
- Assignee set to Alessandro Pasotti
- Operating System changed from Windows 10 Pro - build 17134.523 to Any
- Affected QGIS version changed from 3.4.4 to 3.5(master)

#3 - 2019-02-18 03:25 PM - Alessandro Pasotti
- Status changed from Open to In Progress
- Resolution set to fixed/implemented
- Pull Request or Patch supplied changed from No to Yes

2021-06-12
Btw, there are endless ways to crash QGIS from bad python code, we will never be able to prevent this to happen:

http://enki-editor.org/2014/08/23/Pyqt_mem_mgmt.html

#4 - 2019-02-20 07:43 AM - Alessandro Pasotti
- % Done changed from 0 to 100
- Status changed from In Progress to Closed

Applied in changeset commit:qgis|8db38af86d54b4481b2321e13c9c92cd8789b.