PYWOPWOP Class Diagram

Red: functionality not implemented

References on UML / Class Diagrams:

https://www.visual-paradigm.com/guide/uml-unified-modeling-language/uml-class-diagram-tutorial/

https://www.tutorialspoint.com/uml/uml_class_diagram.htm

PWWPatch

```
version_number_major : 1
version_number_minor : 0

is_structured : boolean
has_iblank : boolean
float_type : 'single'
centered_type : { 'node',
                  'face'}

units_string : str
geometry_type : { 'geometry',
                  'node_subset'}


geometry_time_type : {  'constant',
                        'periodic',
                        'aperiodic'}

loading_time_type : {   'constant',
                        'periodic',
                        'aperiodic'}

loading_data_type : {   'surf_pressure',
                        'surf_loading_vector',
                        'flow_params'}

loading_ref_frame : {   'ground_fixed',
                        'mixed_frame',
                        'blade_fixed'}

geometry_comment : str
loading_comment : str

geometry_format_string : []
loading_format_string : []

zones : []
zones_with_loading_data : []

n_zones : int
n_zones_with_loading_data : int
```

```
print_info()

write_geometry_file()
write_loading_file()
read_geometry_file()
read_loading_file()

add_StructuredZone()

_read_XYZblock()
_read_IBLANKblock()

_read_geometry_header()
_write_geometry_header()
_read_geometry_data()
_write_geometry_data()
_build_geometry_format_string()

_read_loading_header()
_write_loading_header()
_read_loading_data()
_write_loading_data()
_build_loading_format_string()

_update_n_zones()
```

Zone

```
name: str
number: int

geometry : None
loading : None

calc_thickness_noise: boolean
has_loading_data: boolean

header_length: int
```

```
__str__()
_set_string()
set_name()
```

StructuredZone

```
iMax: int
jMax: int
geometry_info_str: str

geometry_name : str
geometry : {StructuredConstantGeometry,
            StructuredPeriodicGeometry,
            StructuredAperiodicGeometry}

loading_name : str
loading : { StructuredConstantLoading,
            StructuredPeriodicLoading,
            StructuredAperiodicLoading}
```

```
_update_geometry_info_str()

add_StructuredConstantGeometry()
add_StructuredPeriodicGeometry()
add_StructuredAperiodicGeometry()

add_StructuredConstantLoading()
add_StructuredPeriodicLoading()
add_StructuredAperiodicLoading()
```

StructuredConstantGeometry

```
XYZ_coord: (3, iMax, jMax) array
normal_coord: (3, iMax, jMax) array

iblank: (iMax, jMax) array, optional
```

StructuredConstantLoading

```
pressures: (iMax, jMax) array
loading_vectors: (3, iMax, jMax) array
flow_params : (5, iMax, jMax) array
```

UnstructuredZone

```
_update_geometry_info [TODO]
```

StructuredPeriodicGeometry

StructuredPeriodicLoading

StructuredAperiodicGeometry

StructuredAperiodicLoading

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