```
#---------------------------------------------------------------------------
# Copyright (c) Bentley Systems, Incorporated. All rights reserved.
# See COPYRIGHT.md in the repository root for full copyright notice
#---------------------------------------------------------------------------
from .openStaadHelper import *
from comtypes import CoInitialize
from .oserrors import *
```

[docs]

```
class OSTable:
    CoInitialize()
```

[docs]

```
    def __init__(self, staadObj):
        self._staad = staadObj
        self._table = self._staad.Table

        self._functions= [
            "CreateReport",
            "SaveReport",
            "SaveReportAll",
            "GetReportCount",
            "AddTable",
            "RenameTable",
            "DeleteTable",
            "ResizeTable",
            "SaveTable",
            "GetTableCount",
            "SetCellValue",
            "GetCellValue",
            "SetColumnHeader",
            "SetColumnUnitString",
            "SetRowHeader",
            "SetCellTextColor",
            "SetCellTextBold",
            "SetCellTextItalic",
            "SetCellTextUnderline",
            "SetCellTextHorzAlignment",
            "SetCellTextVertAlignment",
            "SetCellTextSize",
            "SetCellTextSizeAll",
            "DeleteReport"
        ]

        for function_name in self._functions:
            self._table._FlagAsMethod(function_name)



    ## Table Functions
```

[docs]

```
    def CreateReport (self, report_title: str):
        """
        Creates a report with the specified title.

        Parameters
        ----------
        report_title : str
            A string containing the title of the report.

        Returns
        -------
        int
            Return report number\n
            Return 0 if Create Report error.

        Example
        -------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        """
        result = self._table.CreateReport(report_title)
        if result <= 0:
            raise_os_error_if_error_code(-1)
        return result
```

[docs]

```
    def SaveReport (self, report_no: int):
        """
        Saves the specified report along with all its tables.

        Parameters
        ----------
        report_no : int
            Providing the report number identifying the STAAD report which is to

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> staad_obj.Table.SaveReport(report_no)
        """
        self._table.SaveReport(report_no)
```

[docs]

```
    def SaveReportAll (self):
        """
        Saves all the reports created.
        Returns
        -------
        None

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> staad_obj.Table.SaveReportAll()
        """
        self._table.SaveReportAll()
```

[docs]

```
    def GetReportCount (self):
        """
        Returns the number of reports created.

        Returns
        -------
        int
            Return the number of reports created.

        Returns
        -------
        None

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_count = staad_obj.Table.GetReportCount()
        """
        return self._table.GetReportCount()
```

[docs]

```
    def AddTable (self, report_no: int, table_name: str, row_count: int, col_cou
        """
        Add or create a report data table and returns the table no for a specifi

        Parameters
        ----------
        report_no : int
            Report number.
        table_name  : str
            Report Table Name.
        row_count : int
            row count of the specified table.
        col_count : int
            column count of the specified table.
        Returns
        -------
        int
            Return table number\n
            Return 0 if Create table error.

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        """
        result = self._table.AddTable(report_no, table_name, row_count, col_cou
        if result <= 0:
            raise_os_error_if_error_code(-1)
        return result
```

[docs]

```
    def RenameTable (self, report_no: int, table_no: int, table_name: str):
        """
        Rename an existing report table.

        Parameters
        ----------
        report_no : int
            Report number.
        table_no : int
            Table number in specified report.
        table_name : str
            Report Table Name.

        Returns
        -------
        None

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        >>> staad_obj.Table.RenameTable(report_no, table_number, "Table2")
        """
        self._table.RenameTable(report_no, table_no, table_name)
```

[docs]

```
    def DeleteTable (self, report_no: int, table_no: int):
        """
        Delete an existing table from report data.
        Parameters
        ----------
        report_no : int
            Report number.
        table_no : int
            Table number in specified report.

        Returns
        -------
        None

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        >>> staad_obj.Table.DeleteTable(report_no, table_number)
        """
        self._table.DeleteTable(report_no, table_no)
```

[docs]

```
    def ResizeTable (self, report_no: int, table_no: int, row_nos: int, col_nos
        """
        Resize existing table by increasing numbers of rows and columns from rep

        Parameters
        ----------
        report_no : int
            Report number.
        table_no : int
            Table number in specified report.
        row_nos : int
            row count for specified table.
        col_nos : int
            column count for specified table.

        Returns
        -------
        None

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        >>> staad_obj.Table.ResizeTable(report_no, table_number, 12, 6)
        """
        self._table.ResizeTable(report_no, table_no, row_nos, col_nos)
```

[docs]

```
def SaveTable (self, report_no: int, table_no: int):
    """
    Save a report table.

    Parameters
    ----------
    report_no : int
        Report number.
    TableNo  : int
        Table number in specified report.

    Returns
    -------
    None

    Examples
    --------
    >>> from openstaadpy import os_analytical
    >>> staad_obj = os_analytical.connect()
    >>> report_no = staad_obj.Table.CreateReport("testreport")
    >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
    >>> staad_obj.Table.SaveTable(report_no, table_number)
    """
    self._table.SaveTable(report_no, table_no)
```

[docs]

```
def GetTableCount (self, report_no: int):
    """
    Get table count in a specified report

    Parameters
    ----------
    report_no : int
        Report number.

    Returns
    -------
    int
        Returns table count in a specified report

    Examples
    --------
    >>> from openstaadpy import os_analytical
    >>> staad_obj = os_analytical.connect()
    >>> report_no = staad_obj.Table.CreateReport("testreport")
    >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
    >>> table_count = staad_obj.Table.GetTableCount(report_no)
    """
    return self._table.GetTableCount(report_no)
```

[docs]

```
def SetCellValue (self, report_no: int, table_no: int, row_no: int, col_no:
    """
    Set cell values for a specified table.

    Parameters
    ----------
    report_no : int
        Report number.
    table_no : int
        Table number in specified report.
    row_no : int
        Row number for specified table, start from 1.
    col_no : int
        Column number for specified table, start from 1.
    value : str
        Set cell value for specified cell in the table.

    Examples
    --------
    >>> from openstaadpy import os_analytical
    >>> staad_obj = os_analytical.connect()
    >>> report_no = staad_obj.Table.CreateReport("testreport")
    >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
    >>> staad_obj.Table.SetCellValue(report_no, table_number, 1, 5, "abc")
    """
    self._table.SetCellValue(report_no, table_no, row_no, col_no, value)
```

[docs]

```
def GetCellValue (self, report_no: int, table_no: int, row_no: int, col_no:
    """
    Get cell values for a specified table.

    Parameters
    ----------
    report_no : int
        Report number.
    table_no : int
        Table number in specified report.
    row_no : int
        Row number for specified table, start from 1.
    col_no : int
        Column number for specified table, start from 1.

    Returns
    -------
    string
        Returns cell value for specified cell in the table
    Examples
    --------
    >>> from openstaadpy import os_analytical
    >>> staad_obj = os_analytical.connect()
    >>> report_no = staad_obj.Table.CreateReport("testreport")
    >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
    >>> table_count = staad_obj.Table.SetCellValue(report_no, table_number,
    >>> cell_value = staad_obj.Table.GetCellValue(report_no, table_number, 1
    """
    cell_value = create_bstr()
    ref_cell_value = make_byref(cell_value)
    self._table.GetCellValue(report_no, table_no, row_no, col_no, ref_cell_
    return cell_value.value
```

[docs]

```
    def SetColumnHeader (self, report_no: int, table_no: int, col_no: int, heade
        """
        Sets column header for a specified table.

        Parameters
        ----------
        report_no : int
            Report number.
        table_no : int
            Table number in specified report.
        col_no : int
            Column number for specified table, start from 1.
        header : str
            Column header for a specified column in table.

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        >>> staad_obj.Table.SetColumnHeader(report_no, table_number, 1, "header1
        """
        self._table.SetColumnHeader(report_no, table_no, col_no, header)
```

[docs]

```
    def SetColumnUnitString (self, report_no: int, table_no: int, col_no: int,
        """
        Sets unit for the specific column of a specified table.

        Parameters
        ----------
        report_no : int
            Report number.
        table_no : int
```

```
            Table number in specified report.
        col_no : int
            Column number for specified table, start from 1.
        unit_string : str
            Set unit for the specific column of a specified table.

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        >>> staad_obj.Table.SetColumnUnitString(report_no, table_number, 1, "mm'
        """
        self._table.SetColumnUnitString(report_no, table_no, col_no, unit_strin
```

[docs]

```
    def SetRowHeader (self, report_no: int, table_no: int, row_no: int, header:
        """
        Sets row header for the specific row of a specified table.

        Parameters
        ----------
        report_no : int
            Report number.
        table_no  : int
            Table number in specified report.
        row_no : int
            Row number for specified table, start from 1
        header : str
            Set header for the specific row of a specified table

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        >>> staad_obj.Table.SetRowHeader(report_no, table_number, 1, "row1")
        """
        self._table.SetRowHeader(report_no, table_no, row_no, header)
```

[docs]

```
    def SetCellTextColor (self, report_no: int, table_no: int, row_no: int, col_
        """
        Sets the color of the text to be displayed in a particular cell. By defa

        Parameters
        ----------
        report_no : int
```

```
            Report number.
        table_no  : int
            Table number in specified report.
        row_no : int
            Row number for specified table, start from 1.
        col_no : int
            Column number for specified table, start from 1.
        red : int
            An integer between 0 and 255 that represents the intensity of red ir
        green : int
            An integer between 0 and 255 that represents the intensity of green
        blue : int
            An integer between 0 and 255 that represents the intensity of blue i

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        >>> staad_obj.Table.SetCellValue(report_no, table_number, 1, 5, "abc")
        >>> staad_obj.Table.SetCellTextColor(report_no, table_number, 1, 5, 240,
        """
        self._table.SetCellTextColor(report_no, table_no, row_no, col_no, red, g
```

[docs]

```
    def SetCellTextBold (self, report_no: int, table_no: int, row_no: int, col_
        """
        Sets the text in a given row and column to bold.

        Parameters
        ----------
        report_no : int
            Report number.
        table_no  : int
            Table number in specified report.
        row_no : int
            Row number for specified table, start from 1.
        col_no : int
            Column number for specified table, start from 1.

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        >>> staad_obj.Table.SetCellValue(report_no, table_number, 1, 5, "abc")
        >>> staad_obj.Table.SetCellTextBold(report_no, table_number, 1, 5)
        """
        self._table.SetCellTextBold(report_no, table_no, row_no, col_no)
```

[docs]

```
def SetCellTextItalic (self, report_no: int, table_no: int, row_no: int, co
    """
    Italicizes the text in a given row and column.

    Parameters
    ----------
    report_no : int
        Report number.
    table_no  : int
        Table number in specified report.
    row_no : int
        Row number for specified table, start from 1.
    col_no : int
        Column number for specified table, start from 1.

    Examples
    --------
    >>> from openstaadpy import os_analytical
    >>> staad_obj = os_analytical.connect()
    >>> report_no = staad_obj.Table.CreateReport("testreport")
    >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
    >>> staad_obj.Table.SetCellValue(report_no, table_number, 1, 5, "abc")
    >>> staad_obj.Table.SetCellTextItalic(report_no, table_number, 1, 5)
    """
    self._table.SetCellTextItalic(report_no, table_no, row_no, col_no)
```

[docs]

```
def SetCellTextUnderline (self, report_no: int, table_no: int, row_no: int,
    """
    Underlines the text in a given row and column.

    Parameters
    ----------
    report_no : int
        Report number.
    table_no  : int
        Table number in specified report.
    row_no : int
        Row number for specified table, start from 1.
    col_no : int
        Column number for specified table, start from 1.

    Examples
    --------
    >>> from openstaadpy import os_analytical
    >>> staad_obj = os_analytical.connect()
    >>> report_no = staad_obj.Table.CreateReport("testreport")
    >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
    >>> staad_obj.Table.SetCellValue(report_no, table_number, 1, 5, "abc")
    >>> staad_obj.Table.SetCellTextUnderline(report_no, table_number, 1, 5)
```

```
        """
        self._table.SetCellTextUnderline(report_no, table_no, row_no, col_no)
```

[docs]

```
    def SetCellTextHorzAlignment (self, report_no: int, table_no: int, row_no:
        """
        Sets the text in a particular row and column to a specified horizontal a

        Parameters
        ----------
        report_no : int
            Report number.
        table_no  : int
            Table number in specified report.
        row_no : int
            Row number for specified table, start from 1.
        col_no : int
            Column number for specified table, start from 1.
        align : int
           align Sets the text in a particular row and column to a specified hor

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        >>> staad_obj.Table.SetCellValue(report_no, table_number, 1, 5, "abc")
        >>> staad_obj.Table.SetCellTextHorzAlignment(report_no, table_number, 1,
        """
        self._table.SetCellTextHorzAlignment(report_no, table_no, row_no, col_n
```

[docs]

```
    def SetCellTextVertAlignment (self, report_no: int, table_no: int, row_no:
        """
        Sets the text in a particular row and column to a specified vertical ali

        Parameters
        ----------
        report_no : int
            Report number.
        table_no  : int
            Table number in specified report.
        row_no : int
            Row number for specified table, start from 1.
        col_no : int
            Column number for specified table, start from 1.
        align : int
           align Sets the text in a particular row and column to a specified ver
        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        >>> staad_obj.Table.SetCellValue(report_no, table_number, 1, 5, "abc")
        >>> staad_obj.Table.SetCellTextVertAlignment(report_no, table_number, 1,
        """
        self._table.SetCellTextVertAlignment(report_no, table_no, row_no, col_no
```

[docs]

```
    def SetCellTextSize (self, report_no: int, table_no: int, row_no: int, col_
        """
        Sets the text in a particular row and column to a certain font size. The

        Parameters
        ----------
        report_no : int
            Report number.
        table_no  : int
            Table number in specified report.
        row_no : int
            Row number for specified table, start from 1.
        col_no : int
            Column number for specified table, start from 1.
        size : float
           Containing the size of the font to set the text to.

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        >>> staad_obj.Table.SetCellValue(report_no, table_number, 1, 5, "abc")
        >>> staad_obj.Table.SetCellTextSize(report_no, table_number, 1, 5, 12.25
        """
        self._table.SetCellTextSize(report_no, table_no, row_no, col_no, size)
```

[docs]

```
    def SetCellTextSizeAll (self, report_no: int, table_no: int, size: float):
        """
        Sets the text in the entire table to FontSize. The font sizes are equiva

        Parameters
        ----------
        report_no : int
            Report number.
        table_no  : int
```

```
            Table number in specified report.
        size : float
           Containing the size of the font to set the text to.

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 11, 5)
        >>> staad_obj.Table.SetCellTextSizeAll(report_no, table_number, 5)
        """
        self._table.SetCellTextSizeAll(report_no, table_no, size)
```

[docs]

```
    def DeleteReport (self, report_no: int):
        """
        Delete an existing report.

        Parameters
        ----------
        report_no : int
            Report number.

        Examples
        --------
        >>> from openstaadpy import os_analytical
        >>> staad_obj = os_analytical.connect()
        >>> report_no = staad_obj.Table.CreateReport("testreport")
        >>> table_number = staad_obj.Table.AddTable(report_no, "Table1", 10, 5)
        >>> staad_obj.Table.DeleteReport(report_no)
        """
        self._table.DeleteReport(report_no)
```