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Студент: **Савчук А. И.**
Преподаватель: **Преподаватель**

К работе допущен:
ДД.ММ.ГГГГ
Работа выполнена:
ДД.ММ.ГГГГ
Отчет принят: _____

Рабочий протокол и отчет
по лабораторной работе №[НОМЕР]

[Название лабораторной работы]

Санкт-Петербург 2023

Содержание

1 Экспериментальные данные

1.1 Теория

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

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1.2 Практика

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2 Обработка экспериментальных данных

2.1 Результаты

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula. [Col21] [Rei16]

Verna Volcano _____
For some Person
Address1
Address2
Address3

date	description	debits($)	credits($)	balance($)
2016-JUN-01	Test	$100	$1000	-$900
2016-JUN-01	Test	$100	$1000	-$900
2016-JUN-01	Test	$100	$1000	-$900
2016-JUN-01	Test	$100	$1000	-$900
2016-JUN-01	Test	$100	$1000	-$900
2016-JUN-01	Test	$100	$1000	-$900
2016-JUN-01	Test	$100	$1000	-$900
2016-JUN-01	Test	$100	$1000	-$900
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2016-JUN-01	Test		$100	$1000	-$900
2016-JUN-01	Test		$100	$1000	-$900
2016-JUN-01	Test		$100	$1000	-$900

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The next code will be directly imported from a file

```python
#!/usr/bin/python
"""
This example shows the functionality of the PyLaTeX library.
It creates a sample report with 2 tables, one containing images and the other
containing data. It also creates a complex header with an image.
..  :copyright: (c) 2016 by Vladimir Gorovikov
    :license: MIT, see License for more details.
"""

# begin-doc-include
import os
from pylatex import Document, PageStyle, Head, Foot, MiniPage, \
    StandAloneGraphic, MultiColumn, Tabu, LongTabu, LargeText, MediumText, \
    LineBreak, NewPage, Tabularx, TextColor, simple_page_number
from pylatex.utils import bold, NoEscape


def generate_unique():
    geometry_options = {
        "head": "40pt",
        "margin": "0.5in",
        "bottom": "0.6in",
        "includeheadfoot": True
    }
    doc = Document(geometry_options=geometry_options)

    # Generating first page style
    first_page = PageStyle("firstpage")

    # Header image
    with first_page.create(Head("L")) as header_left:
        with header_left.create(MiniPage(width=NoEscape(r"0.49\textwidth"),
                                         pos='c')) as logo_wrapper:
            logo_file = os.path.join(os.path.dirname(__file__),
                                     'sample-logo.png')
            logo_wrapper.append(StandAloneGraphic(image_options="width=120px",
                                filename=logo_file))

    # Add document title
    with first_page.create(Head("R")) as right_header:
        with right_header.create(MiniPage(width=NoEscape(r"0.49\textwidth"),
                                          pos='c', align='r')) as title_wrapper:
            title_wrapper.append(LargeText(bold("Bank Account Statement")))
            title_wrapper.append(LineBreak())
            title_wrapper.append(MediumText(bold("Date")))

    # Add footer
    with first_page.create(Foot("C")) as footer:
        message = "Important message please read"
        with footer.create(Tabularx(
                "X X X X",
                width_argument=NoEscape(r"\textwidth"))) as footer_table:

            footer_table.add_row(
                [MultiColumn(4, align='l', data=TextColor("blue", message))])
            footer_table.add_hline(color="blue")
```

```python
                footer_table.add_empty_row()

                branch_address = MiniPage(
                        width=NoEscape(r"0.25\textwidth"),
                        pos='t')
                branch_address.append("960 - 22nd street east")
                branch_address.append("\n")
                branch_address.append("Saskatoon, SK")

                document_details = MiniPage(width=NoEscape(r"0.25\textwidth"),
                                            pos='t', align='r')
                document_details.append("1000")
                document_details.append(LineBreak())
                document_details.append(simple_page_number())

                footer_table.add_row([branch_address, branch_address,
                                      branch_address, document_details])

    doc.preamble.append(first_page)
    # End first page style

    # Add customer information
    with doc.create(Tabu("X[l] X[r]")) as first_page_table:
        customer = MiniPage(width=NoEscape(r"0.49\textwidth"), pos='h')
        customer.append("Verna Volcano")
        customer.append("\n")
        customer.append("For some Person")
        customer.append("\n")
        customer.append("Address1")
        customer.append("\n")
        customer.append("Address2")
        customer.append("\n")
        customer.append("Address3")

        # Add branch information
        branch = MiniPage(width=NoEscape(r"0.49\textwidth"), pos='t!',
                          align='r')
        branch.append("Branch no.")
        branch.append(LineBreak())
        branch.append(bold("1181..."))
        branch.append(LineBreak())
        branch.append(bold("TIB Cheque"))

        first_page_table.add_row([customer, branch])
        first_page_table.add_empty_row()

    doc.change_document_style("firstpage")
    doc.add_color(name="lightgray", model="gray", description="0.80")

    # Add statement table
    with doc.create(LongTabu("X[l] X[2l] X[r] X[r] X[r]",
                             row_height=1.5)) as data_table:
        data_table.add_row(["date",
                            "description",
                            "debits($)",
                            "credits($)",
                            "balance($)"],
```

```python
                                mapper=bold,
                                color="lightgray")
        data_table.add_empty_row()
        data_table.add_hline()
        row = ["2016-JUN-01", "Test", "$100", "$1000", "-$900"]
        for i in range(30):
            if (i % 2) == 0:
                data_table.add_row(row, color="lightgray")
            else:
                data_table.add_row(row)

    doc.append(NewPage())

    # Add cheque images
    with doc.create(LongTabu("X[c] X[c]")) as cheque_table:
        cheque_file = os.path.join(os.path.dirname(__file__),
                                    'chequeexample.png')
        cheque = StandAloneGraphic(cheque_file, image_options="width=200px")
        for i in range(0, 20):
            cheque_table.add_row([cheque, cheque])

    doc.generate_tex("complex_report")


if __name__ == '__main__':
    generate_unique()
```

X	Y
308	502
308	502
308	502
308	502

X	Y
36	568
36	568
36	568
36	568

Список литературы

[Rei16]   Christina Reißel. «Monte Carlo Simulation and Analysis of the $t\bar{t}H$ Process With the ATLAS experiment at $\sqrt{s}$ = 13 TeV». BA thesis. Georg-August-Universität Göttingen, 2016.

[Col21]   CMS Collaboration. «Search for New Physics in Top Quark Production With Additional Leptons in Proton-Proton Collisions at $\sqrt{s}$ = 13 TeV Using Effective Field Theory». В: *Journal of High Energy Physics* 2021, 95 (2021). DOI: 10.1007/JHEP03(2021)095. arXiv: 2012.04120 [hep-ex].

Subbibliography

[Rei16]   Christina Reißel. «Monte Carlo Simulation and Analysis of the $t\bar{t}H$ Process With the ATLAS experiment at $\sqrt{s}$ = 13 TeV». BA thesis. Georg-August-Universität Göttingen, 2016.

[Col21]   CMS Collaboration. «Search for New Physics in Top Quark Production With Additional Leptons in Proton-Proton Collisions at $\sqrt{s}$ = 13 TeV Using Effective Field Theory». В: *Journal of High Energy Physics* 2021, 95 (2021). DOI: 10.1007/JHEP03(2021)095. arXiv: 2012.04120 [hep-ex].