Übungsprotokoll

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Übungsbezeichnung:

Exception Handling – UE07

Inhaltsverzeichnis:

1 Aufgabenstellung

7.1 Basierend auf den Ergebnissen des Warenkorb-Beispiels gilt es für folgende Szenarien eine entsprechende Fehlerbehandlung zu implementieren:

- Fehlende Daten in „shopping_cart.txt“ (z.B. nr)
- Falscher Datentyp in einer Zeile (z.B. String bei Preis)
- Keine Schreiberlaubnis bei „shopping_cart2.txt“
- „shopping_cart.txt“ nicht vorhanden
- Was passiert, wenn der Preis für einen Artikel nicht existiert
  - Z.B. 4711;2;;Riesenschultüte

Verfassen Sie ein Testprotokoll (pdf), das die oben skizzierten Testfälle vor und nach der Implementierung des Exception Handlings dokumentiert.

- Beschreiben Sie die Testfälle (1 bis 2 Sätze)
- Screenshot + Erklärung vor dem Exception Handling
- Screenshot + Erklärung nach dem Exception Handling

Hinweis: Im Repo bitte das py-File als auch das Protokoll ablegen!

2 Theoretische Grundlagen

Mithilfe dieser Website sollte man es im Selbststudium lernen.

https://docs.python.org/3/tutorial/errors.html

3 Übungsdurchführung

3.1 Without Exception Handling

```
import sys

def calculate(input_file, output_file):
    try:
        writefile = open(output_file, 'w+')
        writefile.write('#Nr;Preis;Beschreibung\n')
        with open(input_file, 'r') as openfile:
            for line in openfile:
                if not line.startswith('#'):
                    val = line.split(';')
                    writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" + val[3])
        writefile.close()
```

3.2 With Exception Handling

```
import sys

def calculate(input_file, output_file):
    try:
        writefile = open(output_file, 'w+')
        writefile.write('#Nr;Preis;Beschreibung\n')
        with open(input_file, 'r') as openfile:
            for line in openfile:
                if not line.startswith('#'):
                    val = line.split(';')
                    writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" + val[3])
        writefile.close()

    except OSError as err:
        print("OS error: {0}".format(err))
    except ValueError:
        print("Could not convert data to an float.")
    except:
        print("Unexpected error:", sys.exc_info()[0])
        raise
```

3.3 Dokument nicht vorhanden

Das Dokument ist nicht vorhanden und dadurch gibt es keinen Output

Ohne Exception:

```
import sys

def calculate(input_file, output_file):

        writefile = open(output_file, 'w+')
        writefile.write('#Nr;Preis;Beschreibung\n')
        with open(input_file, 'r') as openfile:
            for line in openfile:
                if not line.startswith('#'):
                    val = line.split(';')
                    writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" +
        writefile.close()
```

```
calculate('shopping_cart.txt', 'shopping_cart2.txt')
```

```
---------------------------------------------------------------------------
FileNotFoundError                         Traceback (most recent call last)
<ipython-input-36-d7423596b0f9> in <module>
----> 1 calculate('shopping_cart.txt', 'shopping_cart2.txt')

<ipython-input-35-81a144e642c9> in calculate(input_file, output_file)
      5         writefile = open(output_file, 'w+')
      6         writefile.write('#Nr;Preis;Beschreibung\n')
----> 7         with open(input_file, 'r') as openfile:
      8             for line in openfile:
      9                 if not line.startswith('#'):

FileNotFoundError: [Errno 2] No such file or directory: 'shopping_cart.txt'
```

Mit Exception:

```
import sys

def calculate(input_file, output_file):
    try:
        writefile = open(output_file, 'w+')
        writefile.write('#Nr;Preis;Beschreibung\n')
        with open(input_file, 'r') as openfile:
            for line in openfile:
                if not line.startswith('#'):
                    val = line.split(';')
                    writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" +
        writefile.close()

    except OSError as err:
        print("OS error: {0}".format(err))
    except ValueError:
        print("Could not convert data to an float.")
    except:
        print("Unexpected error:", sys.exc_info()[0])
        raise
```

```
calculate('shopping_cart.txt', 'shopping_cart2.txt')
```

```
OS error: [Errno 2] No such file or directory: 'shopping_cart.txt'
```

3.4 Ändern der Inputfile

Dieser Fehler Passiert wenn wir den Preis Wert aus unseren Inputfile weg geben und unser Float zu einem String wird dann bekommt man einen Fehler.

Input File:

#Nr;Menge;Einzelpreis;Bezeichnung

4714;100.2;Riesenschultüte

0815;2.33;Kaugummi

9222;18.5;Maus

4523;80;Monitor

4521;12;Mouspad

9040;90;Zuckerl

8505;45;Tasche

Mit Exception:

```
calculate('shopping_cart.txt', 'shopping_cart2.txt')
```

```
Could not convert data to an float.
```

Ohne Exception:

```
In [19]: calculate('shopping_cart.txt', 'shopping_cart2.txt')
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-19-d7423596b0f9> in <module>
----> 1 calculate('shopping_cart.txt', 'shopping_cart2.txt')

<ipython-input-18-e402ad14bbba> in calculate(input_file, output_file)
      9                 if not line.startswith('#'):
     10                     val = line.split(';')
---> 11                     writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" + val[3])
     12         writefile.close()
     13

ValueError: could not convert string to float: 'Riesenschultüte\n'
```

3.5 Falscher Datentyp

Bei diesem Fehler sollte ein Zeichenkette die nicht nur aus Zahlen besteht in einen Float umgewandelt werden.

Mit Exception:

```
import sys

def calculate(input_file, output_file):
    try:
        writefile = open(output_file, 'w+')
        writefile.write('#Nr;Preis;Beschreibung\n')
        with open(input_file, 'r') as openfile:
            for line in openfile:
                if not line.startswith('#'):
                    val = line.split(';')
                    writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" +
        writefile.close()

    except OSError as err:
        print("OS error: {0}".format(err))
    except ValueError:
        print("Could not convert data to an float.")
    except:
        print("Unexpected error:", sys.exc_info()[0])
        raise
```

```
calculate('shopping_cart.txt', 'shopping_cart2.txt')
```

```
Could not convert data to an float.
```

Ohne Exception:

```
import sys

def calculate(input_file, output_file):

        writefile = open(output_file, 'w+')
        writefile.write('#Nr;Preis;Beschreibung\n')
        with open(input_file, 'r') as openfile:
            for line in openfile:
                if not line.startswith('#'):
                    val = line.split(';')
                    writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" +
        writefile.close()
```

```
calculate('shopping_cart.txt', 'shopping_cart2.txt')
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-32-d7423596b0f9> in <module>
----> 1 calculate('shopping_cart.txt', 'shopping_cart2.txt')

<ipython-input-31-81a144e642c9> in calculate(input_file, output_file)
      9                 if not line.startswith('#'):
     10                     val = line.split(';')
---> 11                     writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),
2)) + ";" + val[3])
     12         writefile.close()
     13

ValueError: could not convert string to float: '2s'
```

3.6 Keine Schreibberechtigung

Beim entfernen der Schreibberechtigung bekommen wir Folgenden Fehler:

Mit Exception:

```
import sys

def calculate(input_file, output_file):
    try:
        writefile = open(output_file)
        writefile.write('#Nr;Preis;Beschreibung\n')
        with open(input_file, 'r') as openfile:
            for line in openfile:
                if not line.startswith('#'):
                    val = line.split(';')
                    writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" + val[3])
        writefile.close()

    except OSError as err:
        print("OS error: {0}".format(err))
    except ValueError:
        print("Could not convert data to an float.")
    except:
        print("Unexpected error:", sys.exc_info()[0])
        raise
```

```
calculate('shopping_cart.txt', 'shopping_cart2.txt')
```

```
OS error: not writable
```

Ohne Exception:

```
import sys

def calculate(input_file, output_file):

        writefile = open(output_file)
        writefile.write('#Nr;Preis;Beschreibung\n')
        with open(input_file, 'r') as openfile:
            for line in openfile:
                if not line.startswith('#'):
                    val = line.split(';')
                    writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" + val[3])
        writefile.close()
```

```
calculate('shopping_cart.txt', 'shopping_cart2.txt')
```

```
---------------------------------------------------------------------------
UnsupportedOperation                      Traceback (most recent call last)
<ipython-input-9-d7423596b0f9> in <module>
----> 1 calculate('shopping_cart.txt', 'shopping_cart2.txt')

<ipython-input-8-1d0d3a61c34c> in calculate(input_file, output_file)
      4
      5         writefile = open(output_file)
----> 6         writefile.write('#Nr;Preis;Beschreibung\n')
      7         with open(input_file, 'r') as openfile:
      8             for line in openfile:

UnsupportedOperation: not writable
```

3.7 Datei nicht vorhanden

Bei Folgendem Fehler löschen wir die Input-File und dadurch bekommen wir folgenden Fehler.

Mit Exception:

```
import sys

def calculate(input_file, output_file):
    try:
        writefile = open(output_file, 'w+')
        writefile.write('#Nr;Preis;Beschreibung\n')
        with open(input_file, 'r') as openfile:
            for line in openfile:
                if not line.startswith('#'):
                    val = line.split(';')
                    writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" + val[3])
        writefile.close()

    except OSError as err:
        print("OS error: {0}".format(err))
    except ValueError:
        print("Could not convert data to an float.")
    except:
        print("Unexpected error:", sys.exc_info()[0])
        raise
```

```
calculate('shopping_cart.txt', 'shopping_cart2.txt')
```

```
OS error: [Errno 2] No such file or directory: 'shopping_cart.txt'
```

Ohne Exception:

```
In [9]: import os

        WORKING_DIR = os.getcwd()
        DATA_DIR = os.path.join(os.path.dirname(WORKING_DIR), 'UE07')
```

```
In [25]: import sys

         def calculate(input_file, output_file):

                 writefile = open(output_file, 'w+')
                 writefile.write('#Nr;Preis;Beschreibung\n')
                 with open(input_file, 'r') as openfile:
                     for line in openfile:
                         if not line.startswith('#'):
                             val = line.split(';')
                             writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" + val[3])
                 writefile.close()
```

```
In [26]: calculate('shopping_cart.txt', 'shopping_cart2.txt')

         ---------------------------------------------------------------------------
         FileNotFoundError                         Traceback (most recent call last)
         <ipython-input-26-d7423596b0f9> in <module>
         ----> 1 calculate('shopping_cart.txt', 'shopping_cart2.txt')

         <ipython-input-25-6c7b669fd979> in calculate(input_file, output_file)
               5         writefile = open(output_file, 'w+')
               6         writefile.write('#Nr;Preis;Beschreibung\n')
         ----> 7         with open(input_file, 'r') as openfile:
               8             for line in openfile:
               9                 if not line.startswith('#'):

         FileNotFoundError: [Errno 2] No such file or directory: 'shopping_cart.txt'
```

3.8 Datei nicht vorhanden

Bei dem Letzen Fehler entfernen wir den Preis, lass aber die Strichpunkte da, damit wir einen Leerstring haben.

Mit Exception:

```
import sys

def calculate(input_file, output_file):
    try:
        writefile = open(output_file, 'w+')
        writefile.write('#Nr;Preis;Beschreibung\n')
        with open(input_file, 'r') as openfile:
            for line in openfile:
                if not line.startswith('#'):
                    val = line.split(';')
                    writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" + val[3])
        writefile.close()

    except OSError as err:
        print("OS error: {0}".format(err))
    except ValueError:
        print("Could not convert data to an float.")
    except:
        print("Unexpected error:", sys.exc_info()[0])
        raise
```

```
calculate('shopping_cart.txt', 'shopping_cart2.txt')
```

```
Could not convert data to an float.
```

Ohne Exception:

```
import sys

def calculate(input_file, output_file):

        writefile = open(output_file, 'w+')
        writefile.write('#Nr;Preis;Beschreibung\n')
        with open(input_file, 'r') as openfile:
            for line in openfile:
                if not line.startswith('#'):
                    val = line.split(';')
                    writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" + val[3])
        writefile.close()
```

```
calculate('shopping_cart.txt', 'shopping_cart2.txt')
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-3-d7423596b0f9> in <module>
----> 1 calculate('shopping_cart.txt', 'shopping_cart2.txt')

<ipython-input-2-6c7b669fd979> in calculate(input_file, output_file)
      9                 if not line.startswith('#'):
     10                     val = line.split(';')
---> 11                     writefile.write(val[0] + ";" + str(round(float(val[1]) * float(val[2]),2)) + ";" + val[3])
     12         writefile.close()
     13

ValueError: could not convert string to float: ''
```