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Git scenarios and debugging

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Plan na dziś

Prezentacja - Git/Github

Ćwiczenia - Git

☕ 5-10 min przerwa ☕

Debug - prezentacja

Ćwiczenia - challenge

☕ 5-10 min przerwa ☕

Wprowadzenie do TDD

Ćwiczenia - challenge

01. Git in PyCharm

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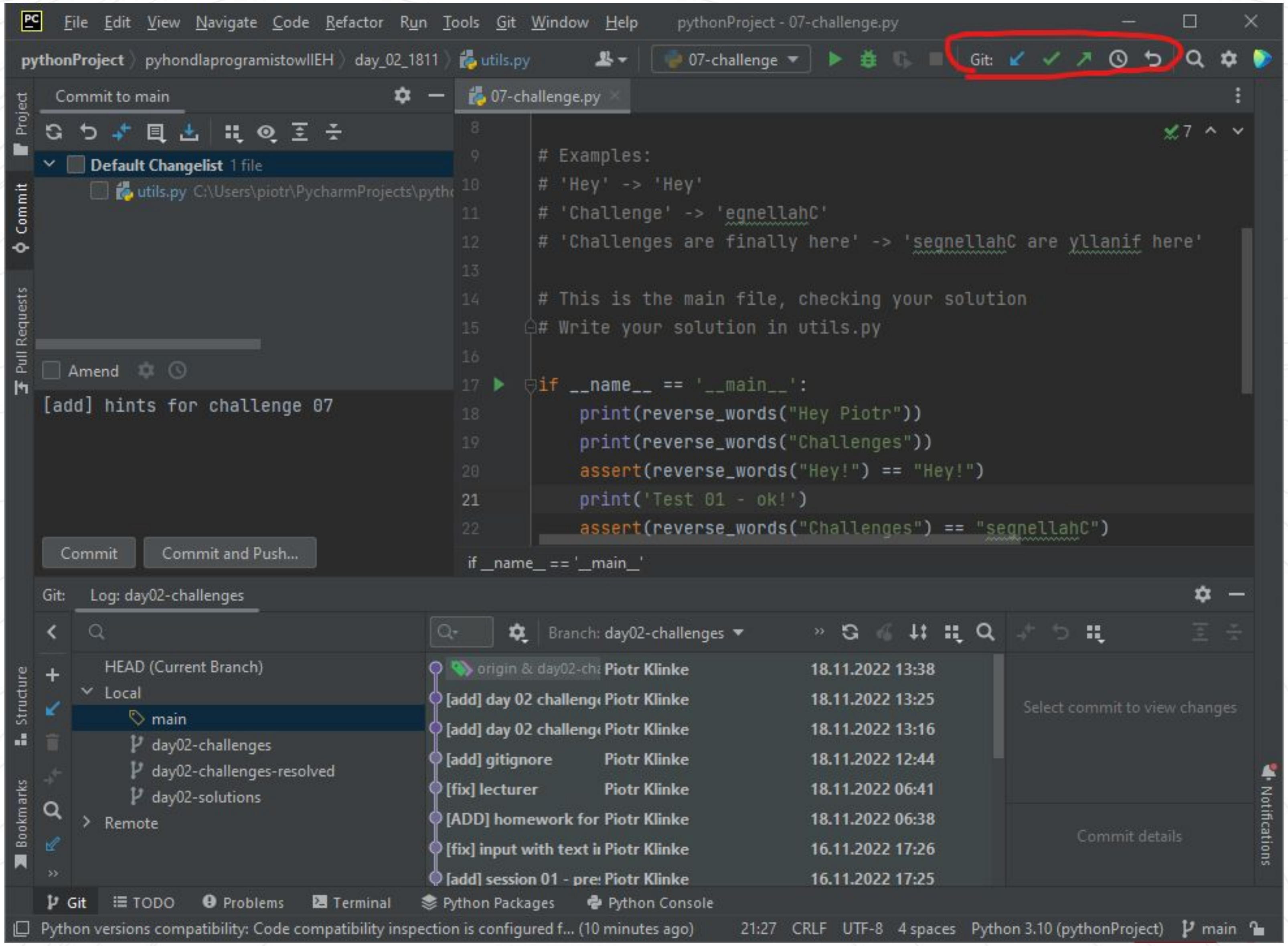
PyCharm Git GUI



File Edit View Navigate Code Refactor Run Tools Git Window Help
pythonProject - 07-challenge.py
pythonProject 〉 pyhondlaprogramistowIEH 〉 day_02_1811 〉 utils.py
07-challenge
Git:
Commit to main
07-challenge.py
Default Changelist 1 file
utils.py C:\Users\piotr\PycharmProjects\pytho
Amend
Commit
Commit and Push...
Project
Commit
Pull Requests
Structure
Bookmarks
Notifications

```
# Examples:
# 'Hey' -> 'Hey'
# 'Challenge' -> 'egnellahC'
# 'Challenges are finally here' -> 'segnellahC are yllanif here'

# This is the main file, checking your solution
# Write your solution in utils.py

if __name__ == '__main__':
    print(reverse_words("Hey Piotr"))
    print(reverse_words("Challenges"))
    assert(reverse_words("Hey!") == "Hey!")
    print('Test 01 - ok!')
    assert(reverse_words("Challenges") == "segnellahC")
```

```
[add] hints for challenge 07
```

if __name__ == '__main__'
Git: Log: day02-challenges
Branch: day02-challenges
HEAD (Current Branch)
Local
main
day02-challenges
day02-challenges-resolved
day02-solutions
Remote
Select commit to view changes
Commit details
Git TODO Problems Terminal Python Packages Python Console

```
origin & day02-ch   Piotr Klinke   18.11.2022 13:38
[add] day 02 challeng Piotr Klinke 18.11.2022 13:25
[add] day 02 challeng Piotr Klinke 18.11.2022 13:16
[add] gitignore      Piotr Klinke   18.11.2022 12:44
[fix] lecturer       Piotr Klinke   18.11.2022 06:41
[ADD] homework for   Piotr Klinke   18.11.2022 06:38
[fix] input with text i Piotr Klinke 16.11.2022 17:26
[add] session 01 - pre: Piotr Klinke 16.11.2022 17:25
```

```
Python versions compatibility: Code compatibility inspection is configured f... (10 minutes ago)   21:27  CRLF  UTF-8  4 spaces  Python 3.10 (pythonProject)  main
```

Main Git actions:

Pull origin - updates local repo

Commit

Push

Show history

PyCharm Git GUI

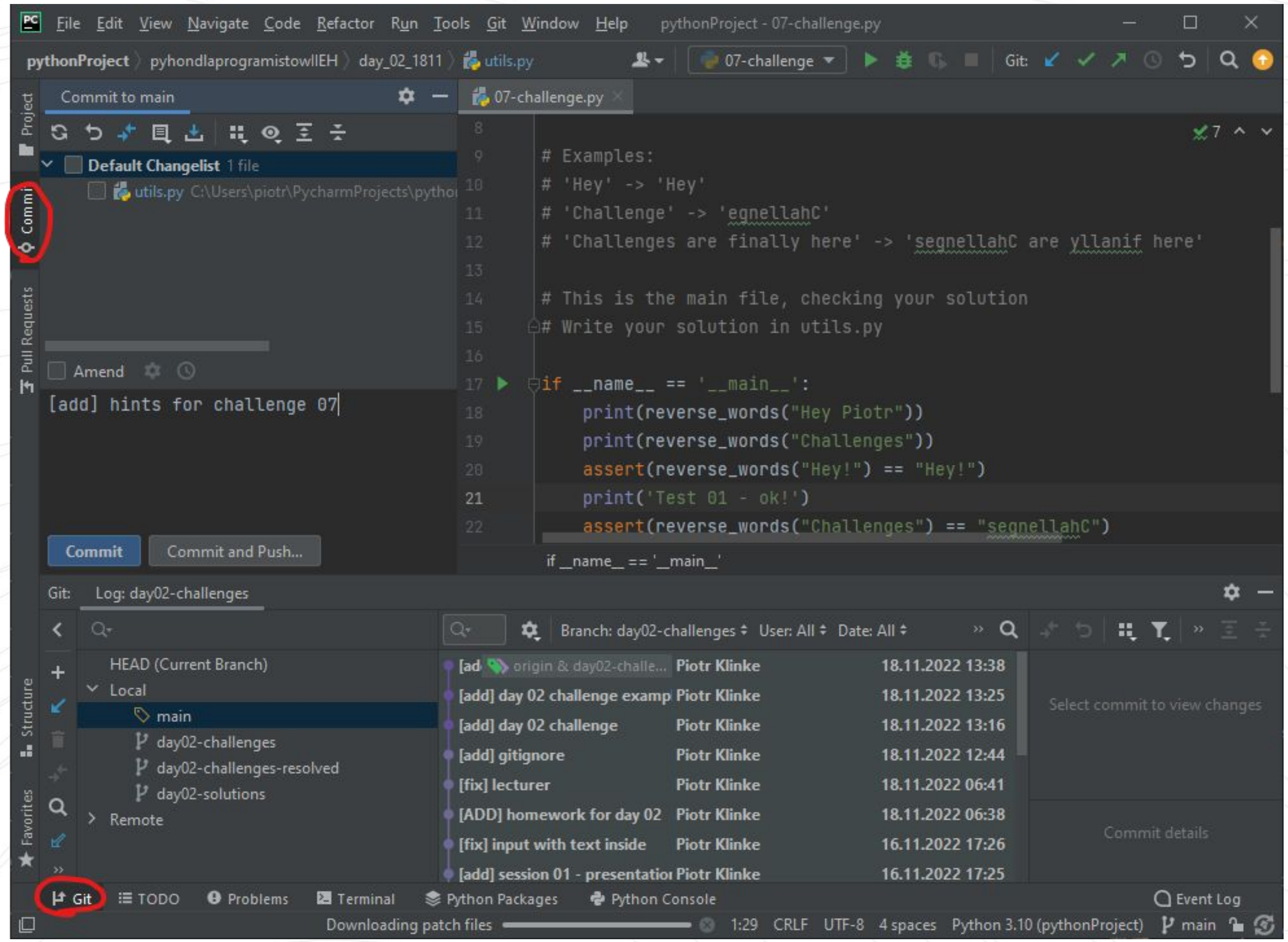
Main windows:

Commit

- checking local changes
- committing (saving) work
- searching for mistakes or unnecessary changes
- rollback of changes (your ctrl+z)

Git:

- changing branches
- adding branches
- reviewing past commits


File Edit View Navigate Code Refactor Run Tools Git Window Help pythonProject - 07-challenge.py
pythonProject › pyhondlaprogramistowIlEH › day_02_1811 › utils.py
07-challenge
Git:
Commit to main
07-challenge.py
Default Changelist 1 file
utils.py C:\Users\piotr\PycharmProjects\pytho
Amend
Commit
Commit and Push...
Project
Commit
Pull Requests
Structure
Favorites
Git: Log: day02-challenges
HEAD (Current Branch)
Local
main
day02-challenges
day02-challenges-resolved
day02-solutions
Remote
Branch: day02-challenges User: All Date: All
Select commit to view changes
Commit details
Git TODO Problems Terminal Python Packages Python Console Event Log
Downloading patch files 1:29 CRLF UTF-8 4 spaces Python 3.10 (pythonProject) main

```
[add] hints for challenge 07
```

```python
# Examples:
# 'Hey' -> 'Hey'
# 'Challenge' -> 'egnellahC'
# 'Challenges are finally here' -> 'segnellahC are yllanif here'

# This is the main file, checking your solution
# Write your solution in utils.py

if __name__ == '__main__':
    print(reverse_words("Hey Piotr"))
    print(reverse_words("Challenges"))
    assert(reverse_words("Hey!") == "Hey!")
    print('Test 01 - ok!')
    assert(reverse_words("Challenges") == "segnellahC")
```

if __name__ == '__main__'

[ad origin & day02-challe...	Piotr Klinke	18.11.2022 13:38
[add] day 02 challenge examp	Piotr Klinke	18.11.2022 13:25
[add] day 02 challenge	Piotr Klinke	18.11.2022 13:16
[add] gitignore	Piotr Klinke	18.11.2022 12:44
[fix] lecturer	Piotr Klinke	18.11.2022 06:41
[ADD] homework for day 02	Piotr Klinke	18.11.2022 06:38
[fix] input with text inside	Piotr Klinke	16.11.2022 17:26
[add] session 01 - presentatio	Piotr Klinke	16.11.2022 17:25

02. Git scenarios

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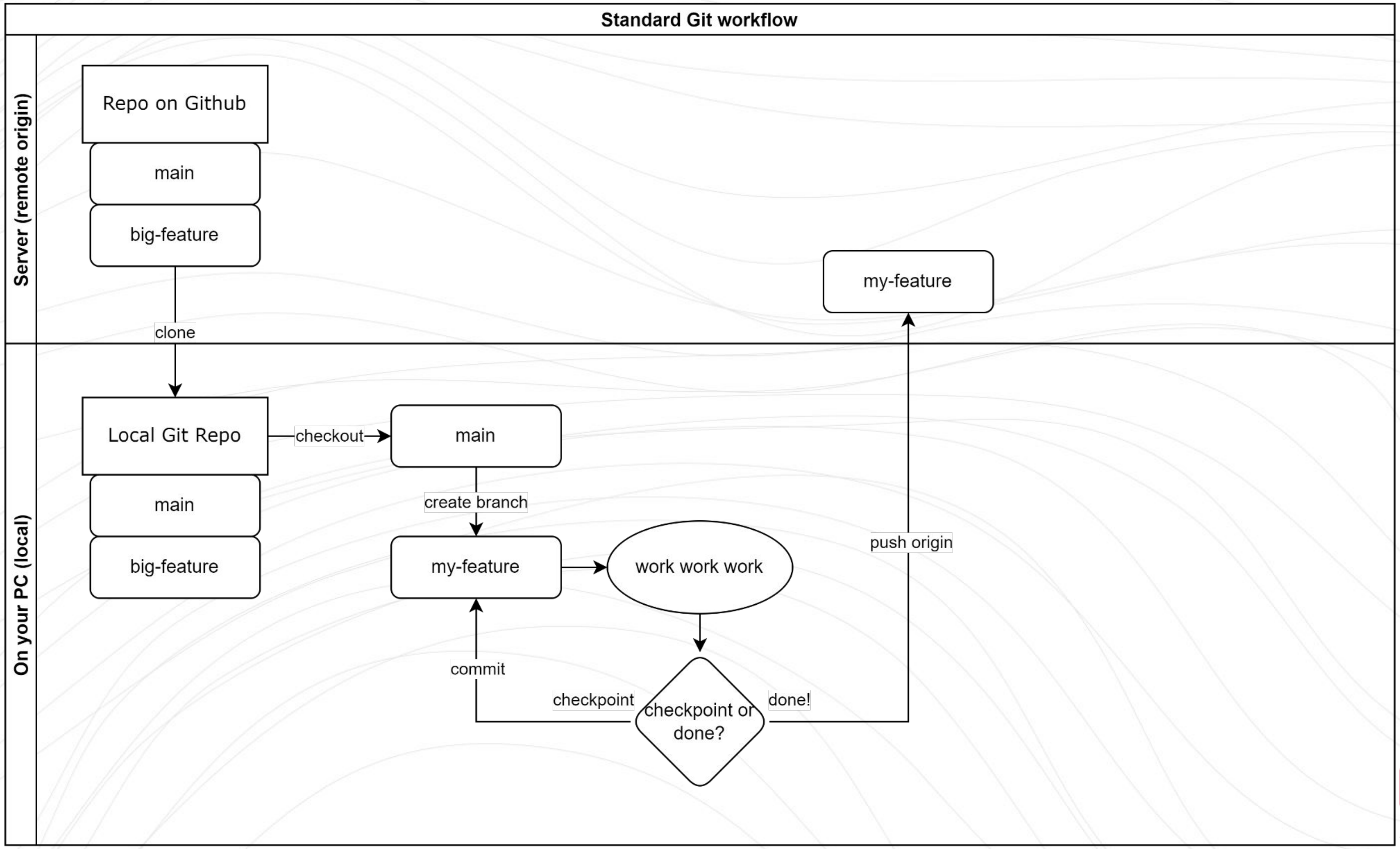
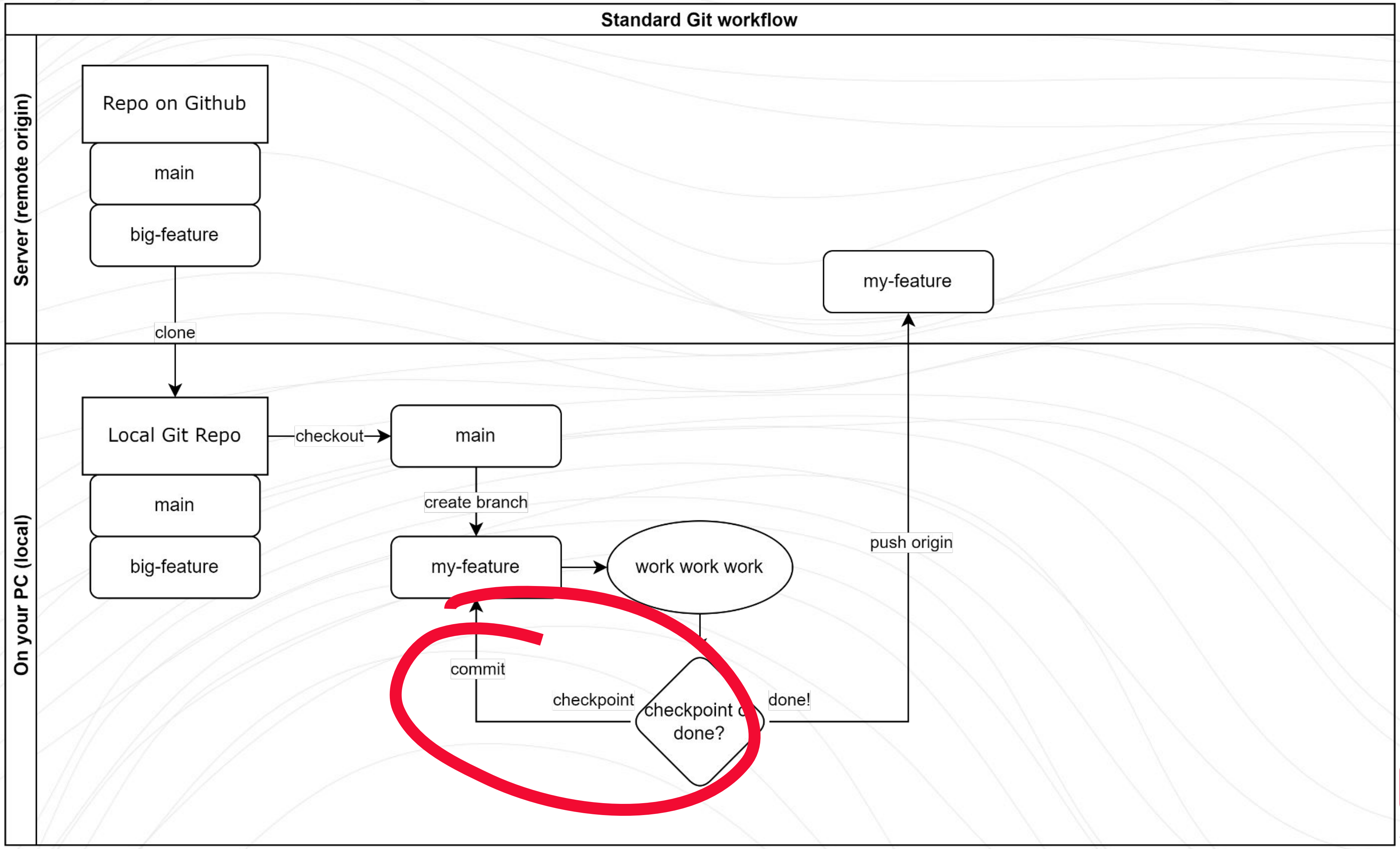
Basic diagram of work with Git



Reviewing your changes



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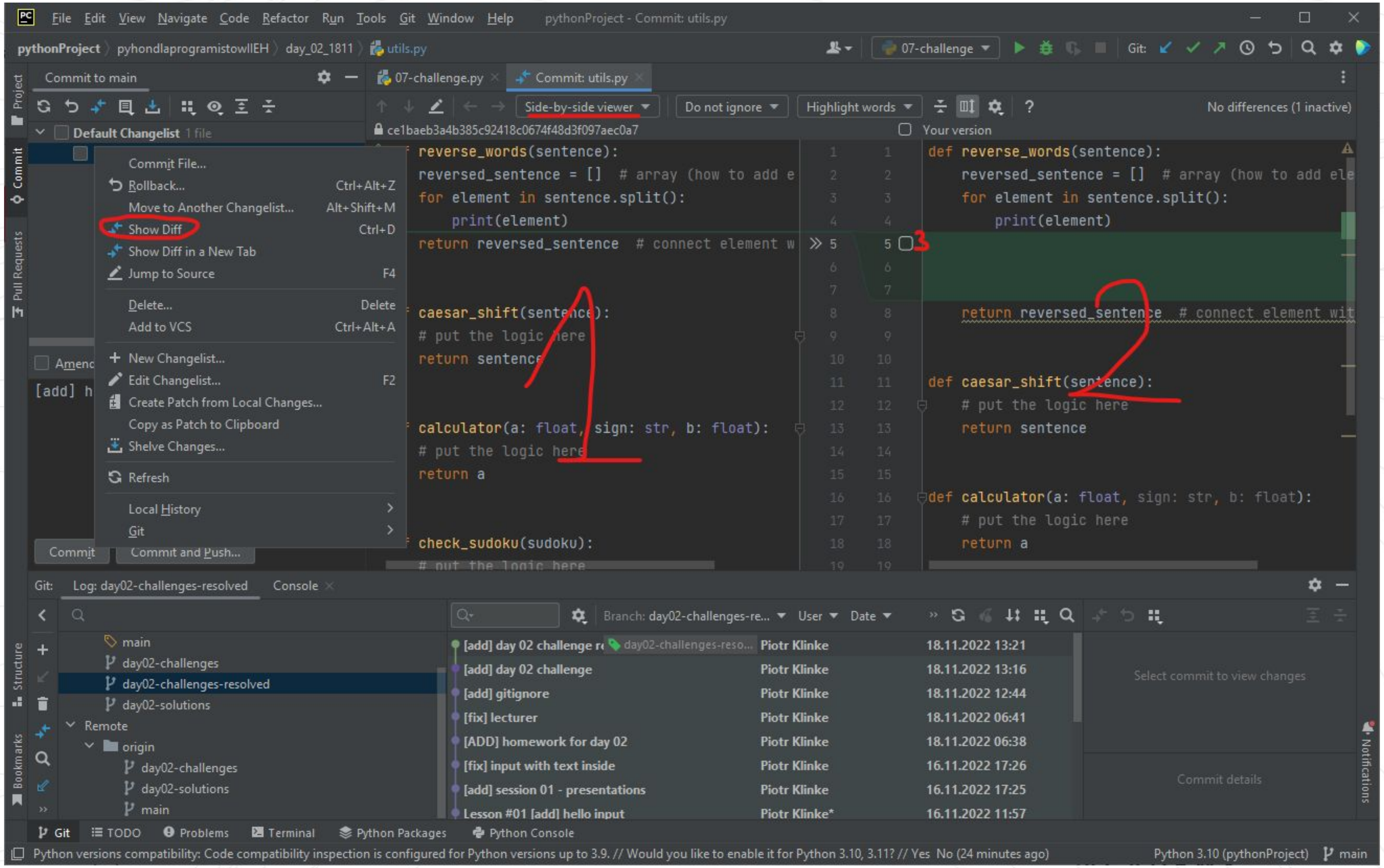
Reviewing your changes



File Edit View Navigate Code Refactor Run Tools Git Window Help
pythonProject - Commit: utils.py
pythonProject › pyhondlaprogramistowIIEH › day_02_1811 › utils.py
07-challenge
Git:
Commit to main
07-challenge.py
Commit: utils.py
Default Changelist 1 file
Commit File...
Rollback... Ctrl+Alt+Z
Move to Another Changelist... Alt+Shift+M
Show Diff Ctrl+D
Show Diff in a New Tab
Jump to Source F4
Delete... Delete
Add to VCS Ctrl+Alt+A
New Changelist...
Edit Changelist... F2
Create Patch from Local Changes...
Copy as Patch to Clipboard
Shelve Changes...
Refresh
Local History
Git
Amend
Commit
Commit and Push...
Side-by-side viewer
Do not ignore
Highlight words
No differences (1 inactive)
Your version
1
2
3
Git: Log: day02-challenges-resolved Console
Branch: day02-challenges-re... User Date
main
day02-challenges
day02-challenges-resolved
day02-solutions
Remote
origin
day02-challenges
day02-solutions
main
Select commit to view changes
Commit details
Git TODO Problems Terminal Python Packages Python Console
Project Commit Pull Requests Structure Bookmarks Notifications

ce1baeb3a4b385c92418c0674f48d3f097aec0a7

```
 reverse_words(sentence):
 reversed_sentence = []  # array (how to add e
 for element in sentence.split():
     print(element)
 return reversed_sentence  # connect element w


 caesar_shift(sentence):
 # put the logic here
 return sentence


 calculator(a: float, sign: str, b: float):
 # put the logic here
 return a


 check_sudoku(sudoku):
 # put the logic here
```

```
def reverse_words(sentence):
    reversed_sentence = []  # array (how to add ele
    for element in sentence.split():
        print(element)



    return reversed_sentence  # connect element wit


def caesar_shift(sentence):
    # put the logic here
    return sentence


def calculator(a: float, sign: str, b: float):
    # put the logic here
    return a
```

```
[add] day 02 challenge re  day02-challenges-reso...  Piotr Klinke   18.11.2022 13:21
[add] day 02 challenge                               Piotr Klinke   18.11.2022 13:16
[add] gitignore                                      Piotr Klinke   18.11.2022 12:44
[fix] lecturer                                       Piotr Klinke   18.11.2022 06:41
[ADD] homework for day 02                            Piotr Klinke   18.11.2022 06:38
[fix] input with text inside                         Piotr Klinke   16.11.2022 17:26
[add] session 01 - presentations                     Piotr Klinke   16.11.2022 17:25
Lesson #01 [add] hello input                         Piotr Klinke*  16.11.2022 11:57
```

Python versions compatibility: Code compatibility inspection is configured for Python versions up to 3.9. // Would you like to enable it for Python 3.10, 3.11? // Yes No (24 minutes ago)   Python 3.10 (pythonProject)   main

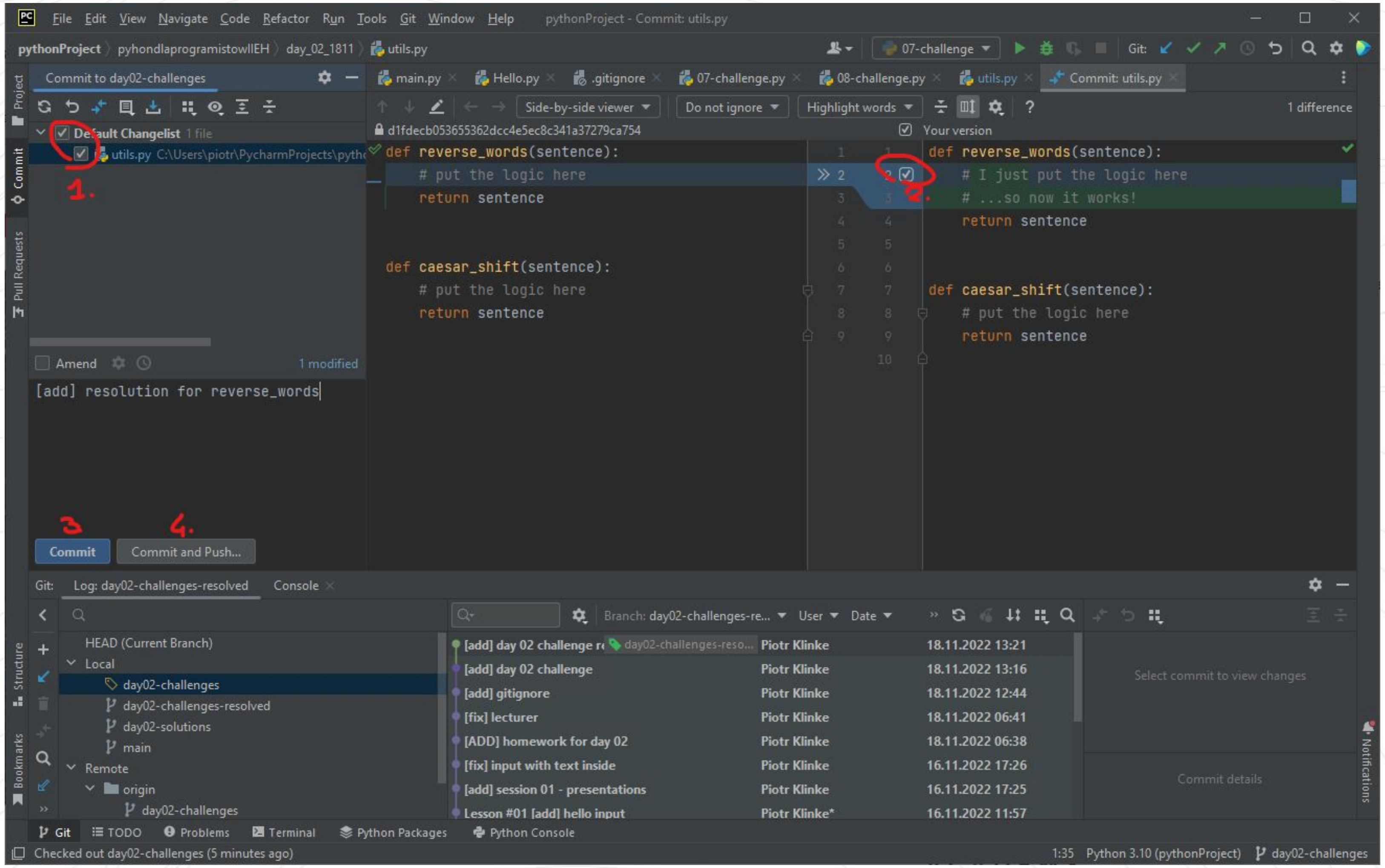
Click show diff or doubleclick your changed file:

- you are shown the difference between original file (1) and your changes (2)

- example change here notes lines added

- you can click the exact change to commit it, rollback or stash

Reviewing your changes


File Edit View Navigate Code Refactor Run Tools Git Window Help
pythonProject - Commit: utils.py
pythonProject 〉 pyhondlaprogramistowIEH 〉 day_02_1811 〉 utils.py
07-challenge
main.py
Hello.py
.gitignore
07-challenge.py
08-challenge.py
utils.py
Commit: utils.py
Commit to day02-challenges
Side-by-side viewer
Do not ignore
Highlight words
1 difference
Default Changelist 1 file
utils.py C:\Users\piotr\PycharmProjects\pytho
1.
2.
3
4.
Amend
1 modified
Commit
Commit and Push...
Your version
Git: Log: day02-challenges-resolved Console
HEAD (Current Branch)
Local
day02-challenges
day02-challenges-resolved
day02-solutions
main
Remote
origin
day02-challenges
Branch: day02-challenges-re... User Date
Select commit to view changes
Commit details
Git TODO Problems Terminal Python Packages Python Console
1:35 Python 3.10 (pythonProject) day02-challenges

d1fdecb053655362dcc4e5ec8c341a37279ca754

```
def reverse_words(sentence):
    # put the logic here
    return sentence


def caesar_shift(sentence):
    # put the logic here
    return sentence
```

```
def reverse_words(sentence):
    # I just put the logic here
    # ...so now it works!
    return sentence


def caesar_shift(sentence):
    # put the logic here
    return sentence
```

```
[add] resolution for reverse_words
```

[add] day 02 challenge r(day02-challenges-reso...	Piotr Klinke	18.11.2022 13:21
[add] day 02 challenge	Piotr Klinke	18.11.2022 13:16
[add] gitignore	Piotr Klinke	18.11.2022 12:44
[fix] lecturer	Piotr Klinke	18.11.2022 06:41
[ADD] homework for day 02	Piotr Klinke	18.11.2022 06:38
[fix] input with text inside	Piotr Klinke	16.11.2022 17:26
[add] session 01 - presentations	Piotr Klinke	16.11.2022 17:25
Lesson #01 [add] hello input	Piotr Klinke*	16.11.2022 11:57

Checked out day02-challenges (5 minutes ago)

Check your changes:

- mark them as a whole file to commit (1) or just some of the lines (2)
- commit the changes locally (3)
- or send to github (4)

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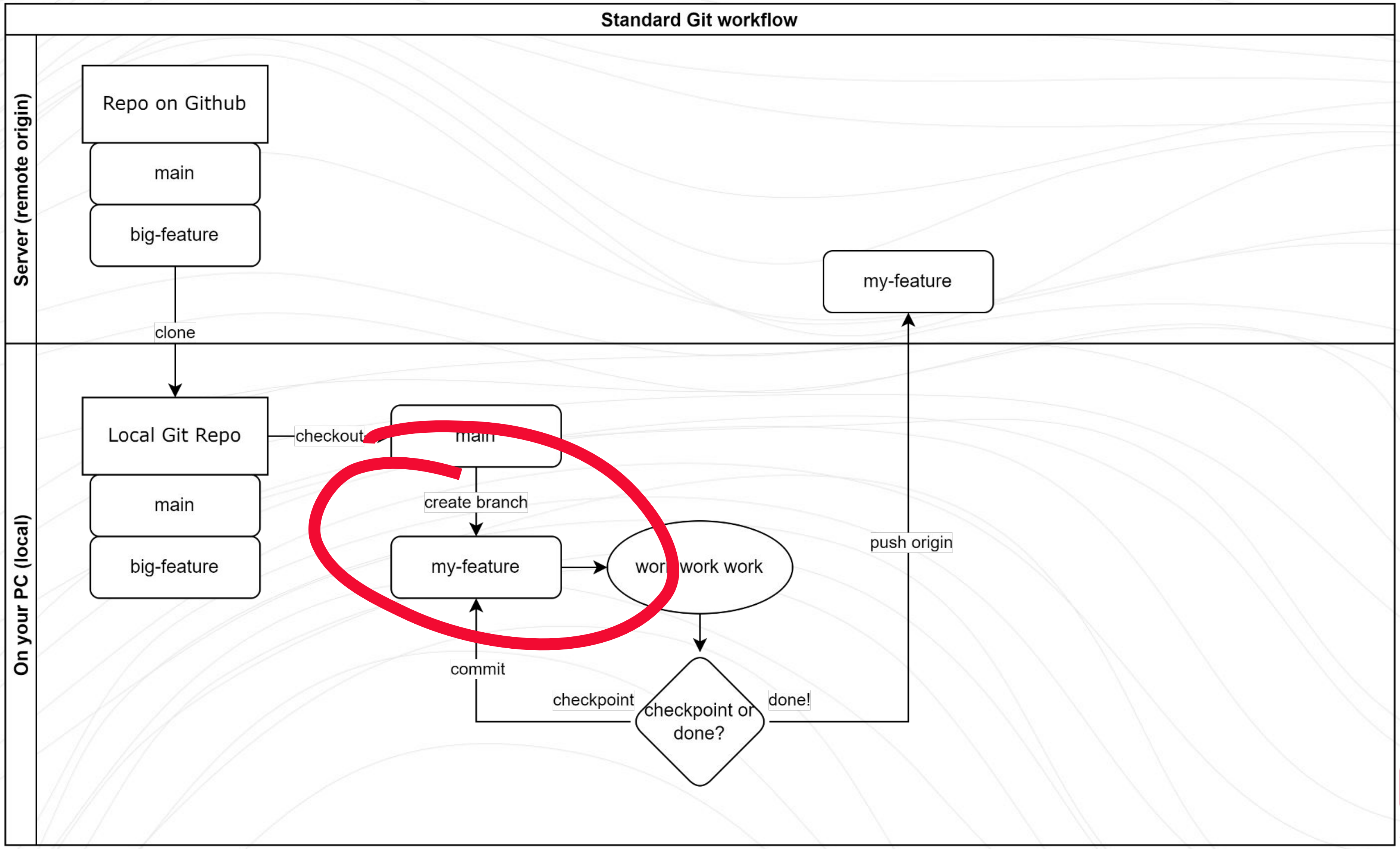
Managing your branch



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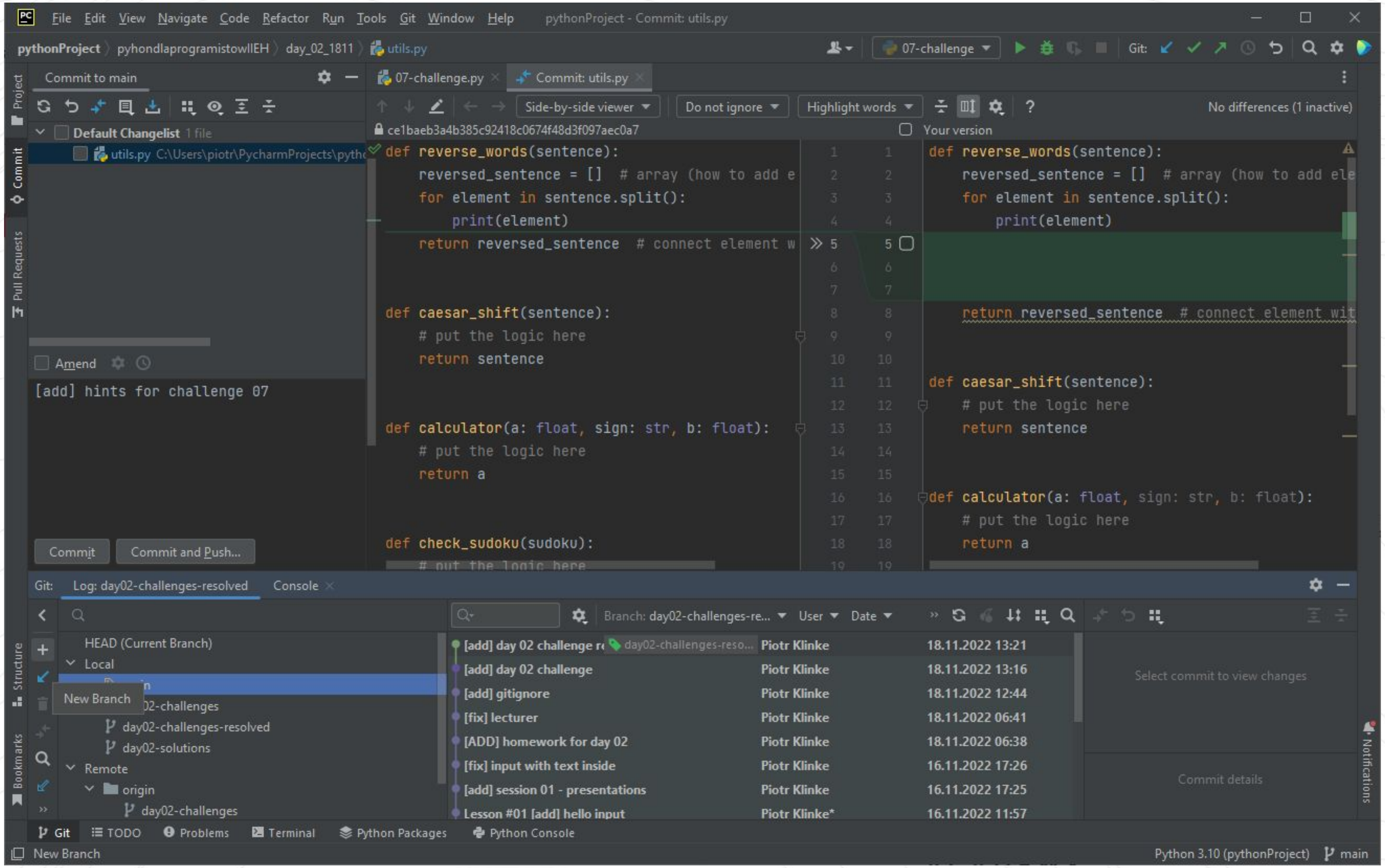
Managing your branch


File Edit View Navigate Code Refactor Run Tools Git Window Help
pythonProject - Commit: utils.py
pythonProject › pyhondlaprogramistowIEH › day_02_1811 › utils.py
07-challenge
Git:
Commit to main
07-challenge.py
Commit: utils.py
Side-by-side viewer
Do not ignore
Highlight words
No differences (1 inactive)
Your version
Default Changelist 1 file
utils.py C:\Users\piotr\PycharmProjects\pytho
Amend
Commit
Commit and Push...
Git: Log: day02-challenges-resolved
Console
Branch: day02-challenges-re...
User
Date
HEAD (Current Branch)
Local
New Branch
02-challenges
day02-challenges-resolved
day02-solutions
Remote
origin
day02-challenges
Select commit to view changes
Commit details
Git TODO Problems Terminal Python Packages Python Console
New Branch
Python 3.10 (pythonProject)
main

ce1baeb3a4b385c92418c0674f48d3f097aec0a7

```
def reverse_words(sentence):
    reversed_sentence = []  # array (how to add e
    for element in sentence.split():
        print(element)
    return reversed_sentence  # connect element w


def caesar_shift(sentence):
    # put the logic here
    return sentence


def calculator(a: float, sign: str, b: float):
    # put the logic here
    return a


def check_sudoku(sudoku):
    # put the logic here
```

```
def reverse_words(sentence):
    reversed_sentence = []  # array (how to add ele
    for element in sentence.split():
        print(element)



    return reversed_sentence  # connect element wit


def caesar_shift(sentence):
    # put the logic here
    return sentence


def calculator(a: float, sign: str, b: float):
    # put the logic here
    return a
```

```
[add] hints for challenge 07
```

[add] day 02 challenge r day02-challenges-reso...	Piotr Klinke	18.11.2022 13:21
[add] day 02 challenge	Piotr Klinke	18.11.2022 13:16
[add] gitignore	Piotr Klinke	18.11.2022 12:44
[fix] lecturer	Piotr Klinke	18.11.2022 06:41
[ADD] homework for day 02	Piotr Klinke	18.11.2022 06:38
[fix] input with text inside	Piotr Klinke	16.11.2022 17:26
[add] session 01 - presentations	Piotr Klinke	16.11.2022 17:25
Lesson #01 [add] hello input	Piotr Klinke*	16.11.2022 11:57

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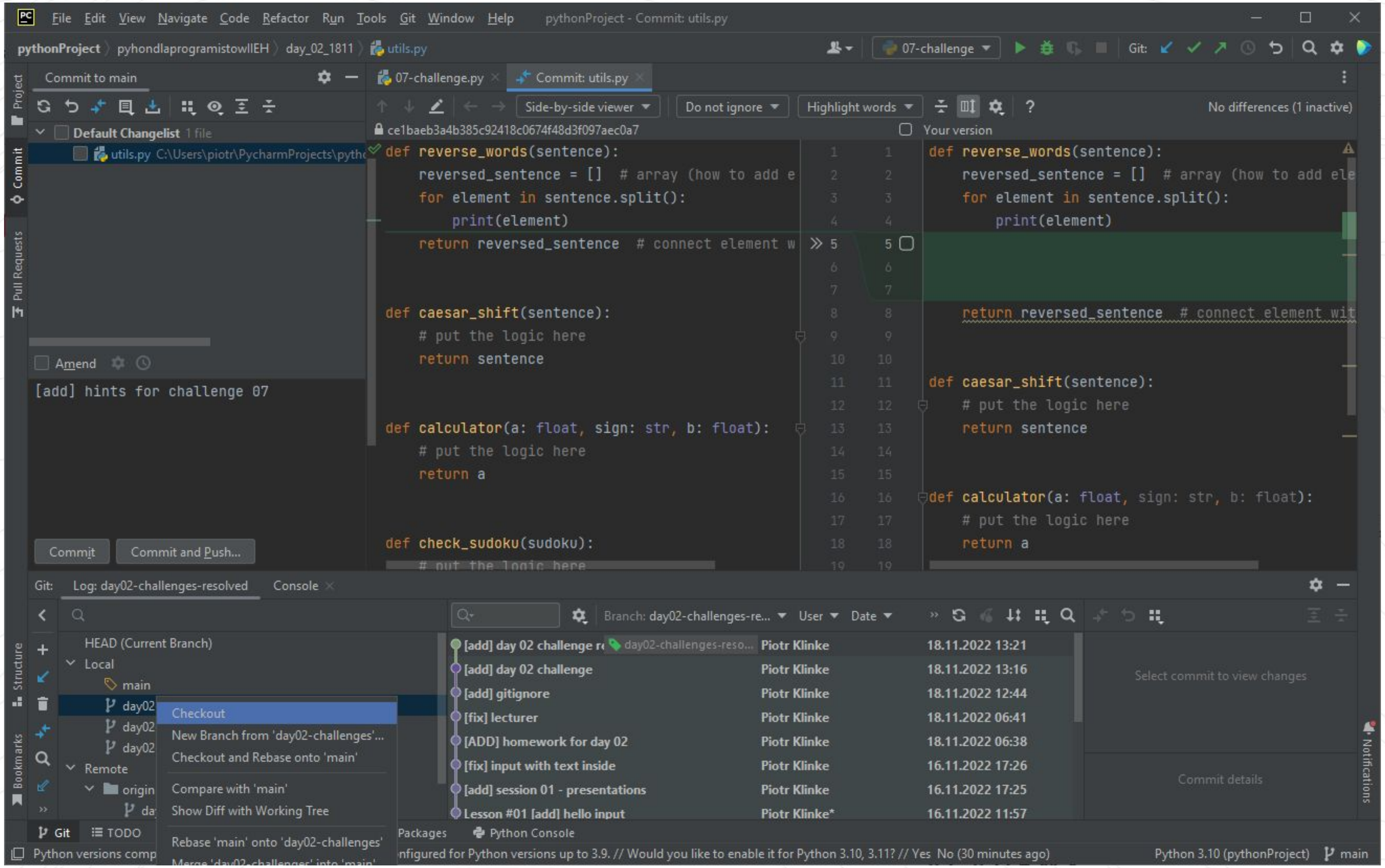
Managing your branch



pythonProject - Commit: utils.py

Commit to main

Default Changelist 1 file

utils.py C:\Users\piotr\PycharmProjects\pytho

Amend

[add] hints for challenge 07

Commit | Commit and Push...

ce1baeb3a4b385c92418c0674f48d3f097aec0a7 | Your version

No differences (1 inactive)

```python
def reverse_words(sentence):
    reversed_sentence = []  # array (how to add e
    for element in sentence.split():
        print(element)
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def caesar_shift(sentence):
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def calculator(a: float, sign: str, b: float):
    # put the logic here
    return a


def check_sudoku(sudoku):
    # put the logic here
```

Git: Log: day02-challenges-resolved | Console

HEAD (Current Branch)
Local
main
day02
day02
day02
Remote
origin

Checkout
New Branch from 'day02-challenges'...
Checkout and Rebase onto 'main'
Compare with 'main'
Show Diff with Working Tree
Rebase 'main' onto 'day02-challenges'
Merge 'day02-challenges' into 'main'

[add] day 02 challenge r	Piotr Klinke	18.11.2022 13:21
[add] day 02 challenge	Piotr Klinke	18.11.2022 13:16
[add] gitignore	Piotr Klinke	18.11.2022 12:44
[fix] lecturer	Piotr Klinke	18.11.2022 06:41
[ADD] homework for day 02	Piotr Klinke	18.11.2022 06:38
[fix] input with text inside	Piotr Klinke	16.11.2022 17:26
[add] session 01 - presentations	Piotr Klinke	16.11.2022 17:25
Lesson #01 [add] hello input	Piotr Klinke*	16.11.2022 11:57

Select commit to view changes

Commit details

Python versions comp... nfigured for Python versions up to 3.9. // Would you like to enable it for Python 3.10, 3.11? // Yes No (30 minutes ago) Python 3.10 (pythonProject) main

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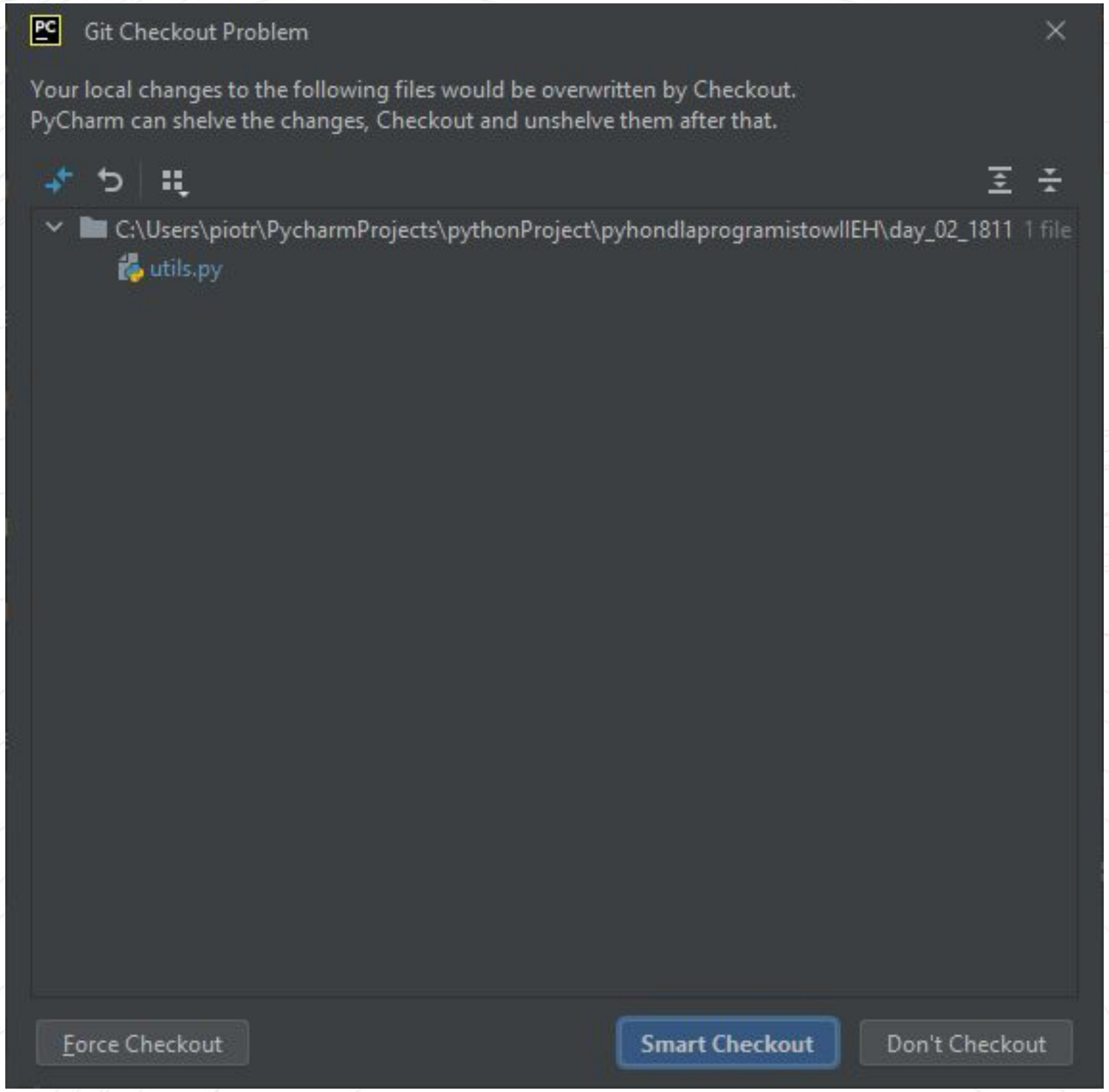
You still have working changes - save them somewhere or rollback


Git Checkout Problem

Your local changes to the following files would be overwritten by Checkout.
PyCharm can shelve the changes, Checkout and unshelve them after that.

C:\Users\piotr\PycharmProjects\pythonProject\pyhondlaprogramistowIIEH\day_02_1811 1 file
utils.py

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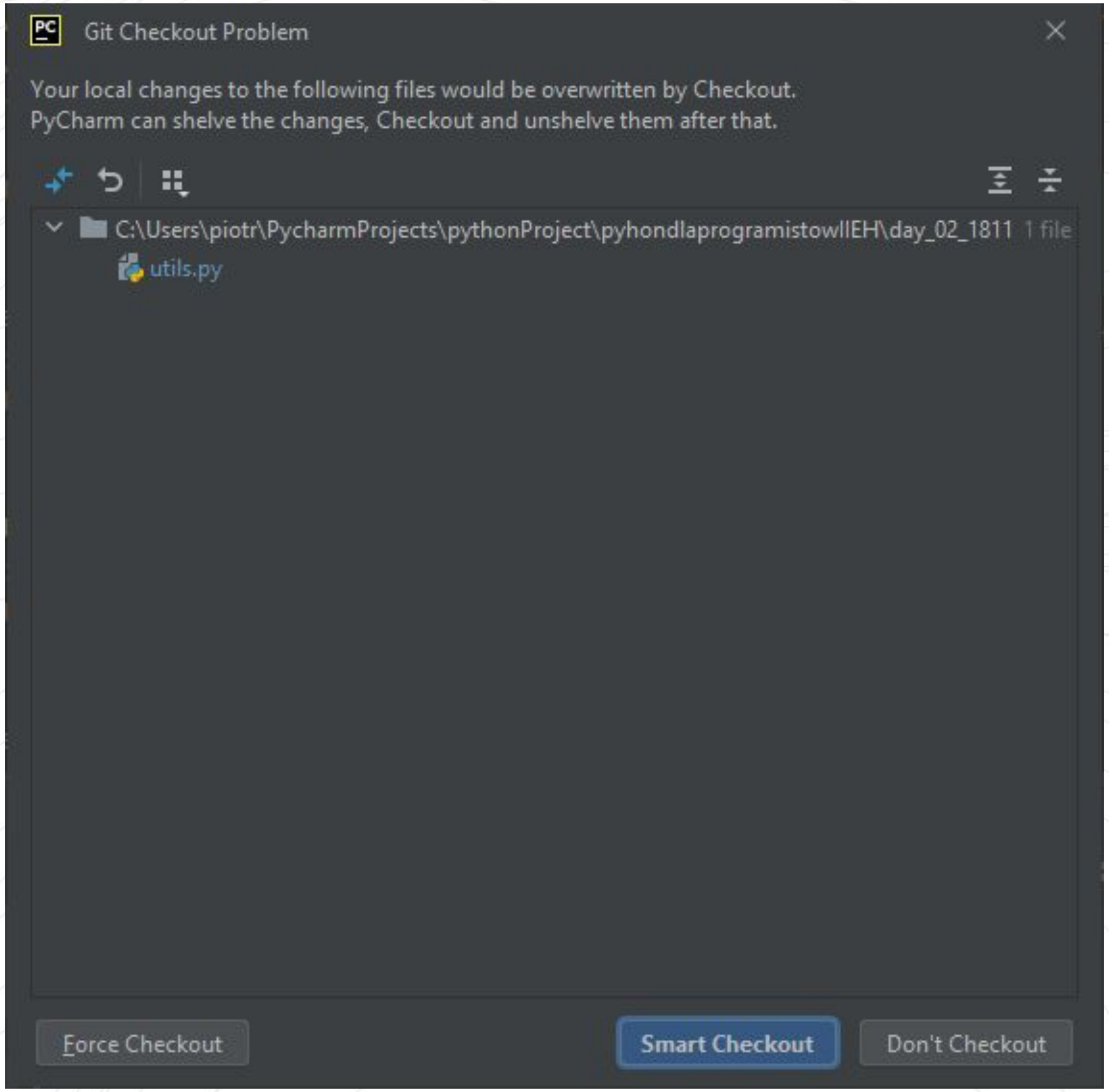
You still have working changes – save them somewhere or rollback

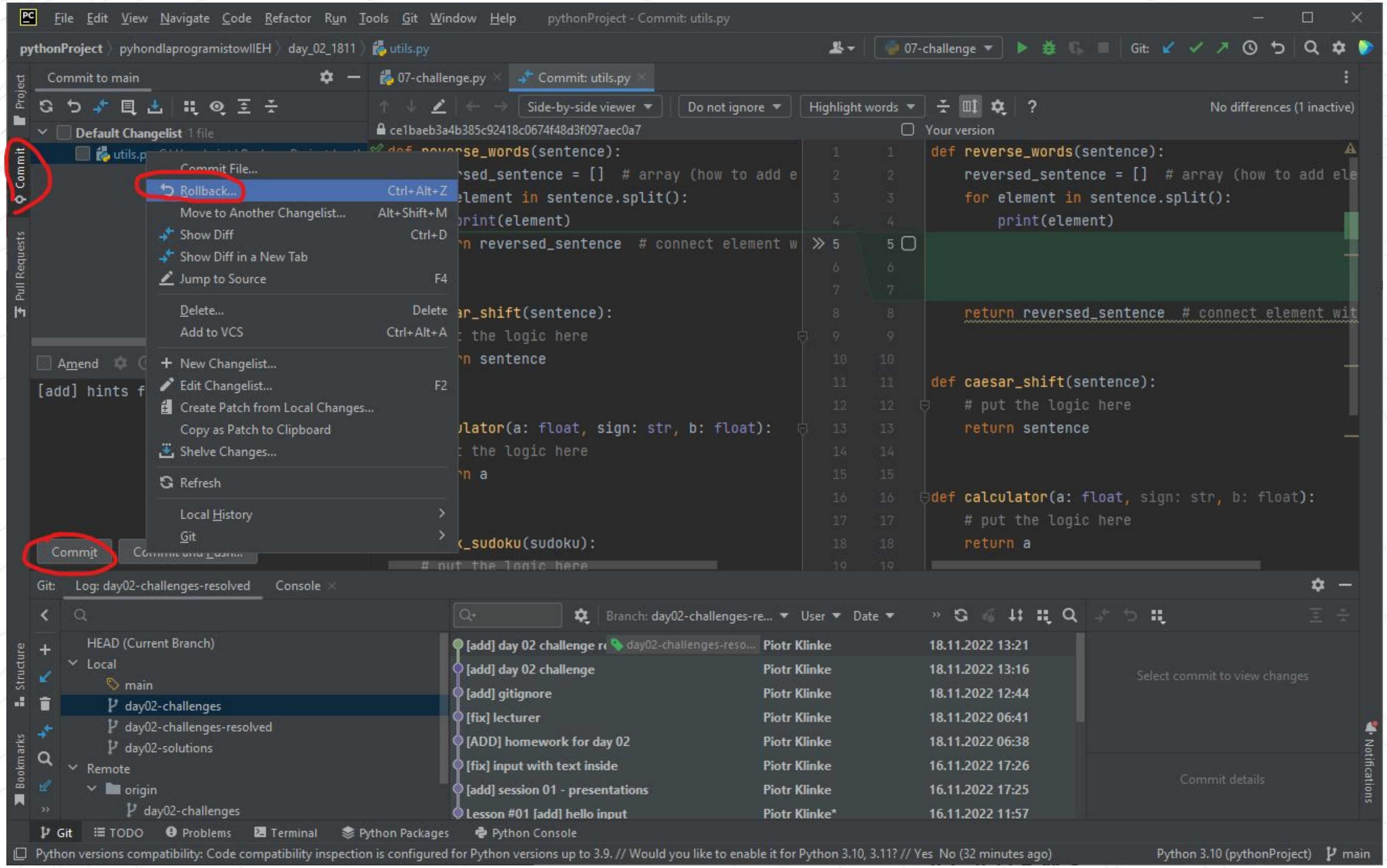


Git Checkout Problem

Your local changes to the following files would be overwritten by Checkout.
PyCharm can shelve the changes, Checkout and unshelve them after that.

C:\Users\piotr\PycharmProjects\pythonProject\pyhondlaprogramistowIIEH\day_02_1811 1 file
utils.py

Commit panel


File Edit View Navigate Code Refactor Run Tools Git Window Help
pythonProject - Commit: utils.py
pythonProject › pyhondlaprogramistowIEH › day_02_1811 › utils.py
07-challenge
Git:
Commit to main
07-challenge.py
Commit: utils.py
Side-by-side viewer
Do not ignore
Highlight words
No differences (1 inactive)
Default Changelist 1 file
utils.py
Commit File...
Rollback... Ctrl+Alt+Z
Move to Another Changelist... Alt+Shift+M
Show Diff Ctrl+D
Show Diff in a New Tab
Jump to Source F4
Delete... Delete
Add to VCS Ctrl+Alt+A
New Changelist...
Edit Changelist... F2
Create Patch from Local Changes...
Copy as Patch to Clipboard
Shelve Changes...
Refresh
Local History
Git
Amend
Commit
Commit and Push...
Project
Commit
Pull Requests
Structure
Bookmarks
Notifications
Git: Log: day02-challenges-resolved Console
Branch: day02-challenges-re... User Date
HEAD (Current Branch)
Local
main
day02-challenges
day02-challenges-resolved
day02-solutions
Remote
origin
day02-challenges
Select commit to view changes
Commit details
Git TODO Problems Terminal Python Packages Python Console
Python 3.10 (pythonProject) main

```
[add] hints f
```

ce1baeb3a4b385c92418c0674f48d3f097aec0a7

Your version

```python
def reverse_words(sentence):
    reversed_sentence = []  # array (how to add ele
    for element in sentence.split():
        print(element)



    return reversed_sentence  # connect element wit


def caesar_shift(sentence):
    # put the logic here
    return sentence


def calculator(a: float, sign: str, b: float):
    # put the logic here
    return a
```

[add] day 02 challenge re day02-challenges-reso...	Piotr Klinke	18.11.2022 13:21
[add] day 02 challenge	Piotr Klinke	18.11.2022 13:16
[add] gitignore	Piotr Klinke	18.11.2022 12:44
[fix] lecturer	Piotr Klinke	18.11.2022 06:41
[ADD] homework for day 02	Piotr Klinke	18.11.2022 06:38
[fix] input with text inside	Piotr Klinke	16.11.2022 17:26
[add] session 01 - presentations	Piotr Klinke	16.11.2022 17:25
Lesson #01 [add] hello input	Piotr Klinke*	16.11.2022 11:57

Python versions compatibility: Code compatibility inspection is configured for Python versions up to 3.9. // Would you like to enable it for Python 3.10, 3.11? // Yes No (32 minutes ago)

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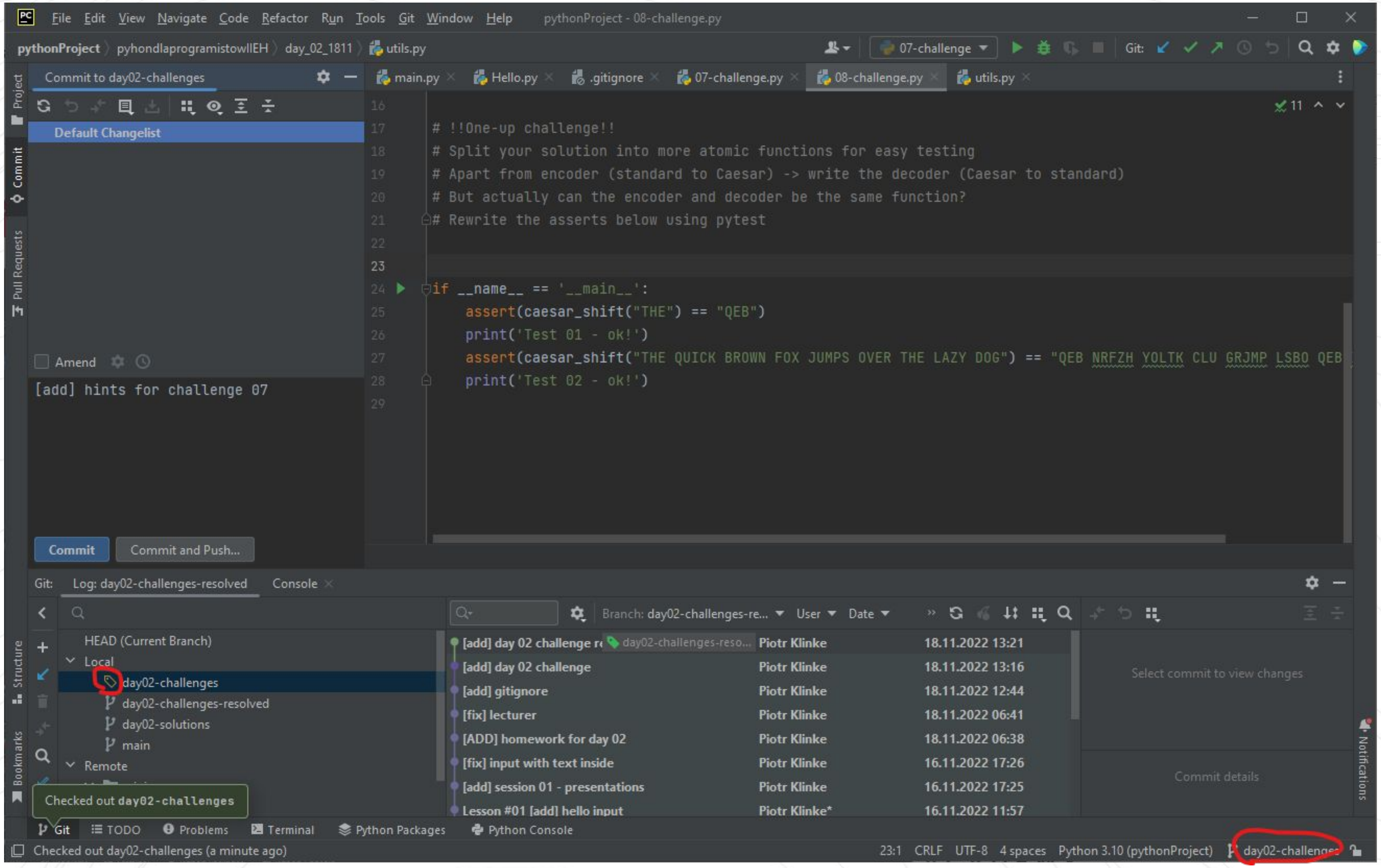
We finally changed our branch


File Edit View Navigate Code Refactor Run Tools Git Window Help
pythonProject - 08-challenge.py
pythonProject 〉 pyhondlaprogramistowIEH 〉 day_02_1811 〉 utils.py
07-challenge
Git:
Commit to day02-challenges
Default Changelist
main.py
Hello.py
.gitignore
07-challenge.py
08-challenge.py
utils.py
Amend
Commit
Commit and Push...
Git: Log: day02-challenges-resolved
Console
HEAD (Current Branch)
Local
day02-challenges
day02-challenges-resolved
day02-solutions
main
Remote
Branch: day02-challenges-re...
User
Date
Select commit to view changes
Commit details
Git
TODO
Problems
Terminal
Python Packages
Python Console
23:1 CRLF UTF-8 4 spaces Python 3.10 (pythonProject)
day02-challenges

```python
# !!One-up challenge!!
# Split your solution into more atomic functions for easy testing
# Apart from encoder (standard to Caesar) -> write the decoder (Caesar to standard)
# But actually can the encoder and decoder be the same function?
# Rewrite the asserts below using pytest


if __name__ == '__main__':
    assert(caesar_shift("THE") == "QEB")
    print('Test 01 - ok!')
    assert(caesar_shift("THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG") == "QEB NRFZH YOLTK CLU GRJMP LSBO QEB
    print('Test 02 - ok!')
```

```
[add] hints for challenge 07
```

[add] day 02 challenge re day02-challenges-reso...	Piotr Klinke	18.11.2022 13:21
[add] day 02 challenge	Piotr Klinke	18.11.2022 13:16
[add] gitignore	Piotr Klinke	18.11.2022 12:44
[fix] lecturer	Piotr Klinke	18.11.2022 06:41
[ADD] homework for day 02	Piotr Klinke	18.11.2022 06:38
[fix] input with text inside	Piotr Klinke	16.11.2022 17:26
[add] session 01 - presentations	Piotr Klinke	16.11.2022 17:25
Lesson #01 [add] hello input	Piotr Klinke*	16.11.2022 11:57

```
Checked out day02-challenges
```

Checked out day02-challenges (a minute ago)

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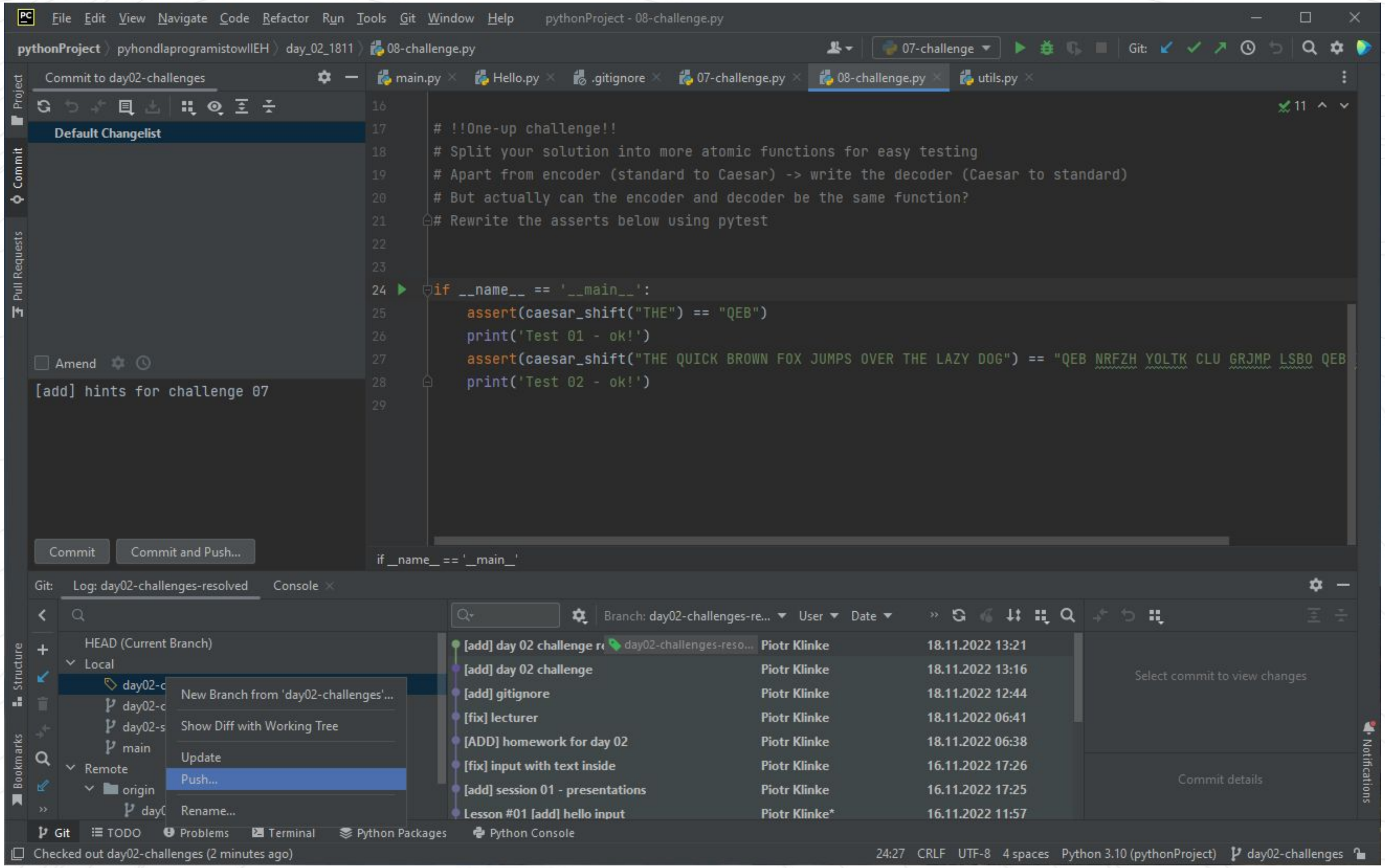
You can push now to Github!


File Edit View Navigate Code Refactor Run Tools Git Window Help
pythonProject - 08-challenge.py
pythonProject 〉 pyhondlaprogramistowIIEH 〉 day_02_1811 〉 08-challenge.py
07-challenge
Git:
Commit to day02-challenges
main.py
Hello.py
.gitignore
07-challenge.py
08-challenge.py
utils.py
Default Changelist
Amend
Commit
Commit and Push...
Git: Log: day02-challenges-resolved
Console
HEAD (Current Branch)
Local
day02-c
day02-c
day02-s
main
Remote
origin
day0
New Branch from 'day02-challenges'...
Show Diff with Working Tree
Update
Push...
Rename...
Branch: day02-challenges-re...
User
Date
Select commit to view changes
Commit details
Git
TODO
Problems
Terminal
Python Packages
Python Console
24:27 CRLF UTF-8 4 spaces Python 3.10 (pythonProject) day02-challenges

```
[add] hints for challenge 07
```

```python

# !!One-up challenge!!
# Split your solution into more atomic functions for easy testing
# Apart from encoder (standard to Caesar) -> write the decoder (Caesar to standard)
# But actually can the encoder and decoder be the same function?
# Rewrite the asserts below using pytest


if __name__ == '__main__':
    assert(caesar_shift("THE") == "QEB")
    print('Test 01 - ok!')
    assert(caesar_shift("THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG") == "QEB NRFZH YOLTK CLU GRJMP LSBO QEB
    print('Test 02 - ok!')

```

if __name__ == '__main__'

[add] day 02 challenge r day02-challenges-reso...	Piotr Klinke	18.11.2022 13:21
[add] day 02 challenge	Piotr Klinke	18.11.2022 13:16
[add] gitignore	Piotr Klinke	18.11.2022 12:44
[fix] lecturer	Piotr Klinke	18.11.2022 06:41
[ADD] homework for day 02	Piotr Klinke	18.11.2022 06:38
[fix] input with text inside	Piotr Klinke	16.11.2022 17:26
[add] session 01 - presentations	Piotr Klinke	16.11.2022 17:25
Lesson #01 [add] hello input	Piotr Klinke*	16.11.2022 11:57

Checked out day02-challenges (2 minutes ago)

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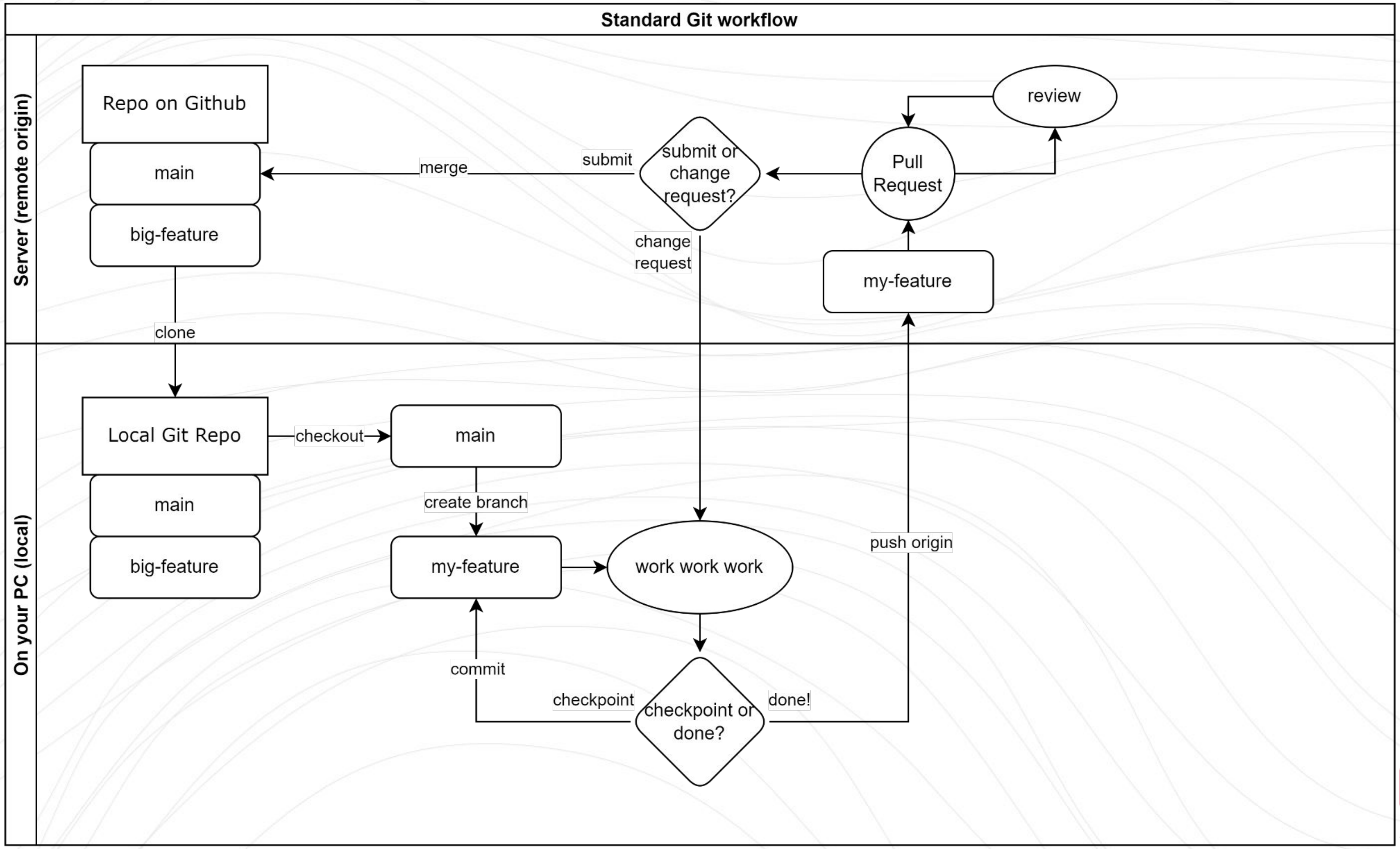
Finishing work



02. Debug

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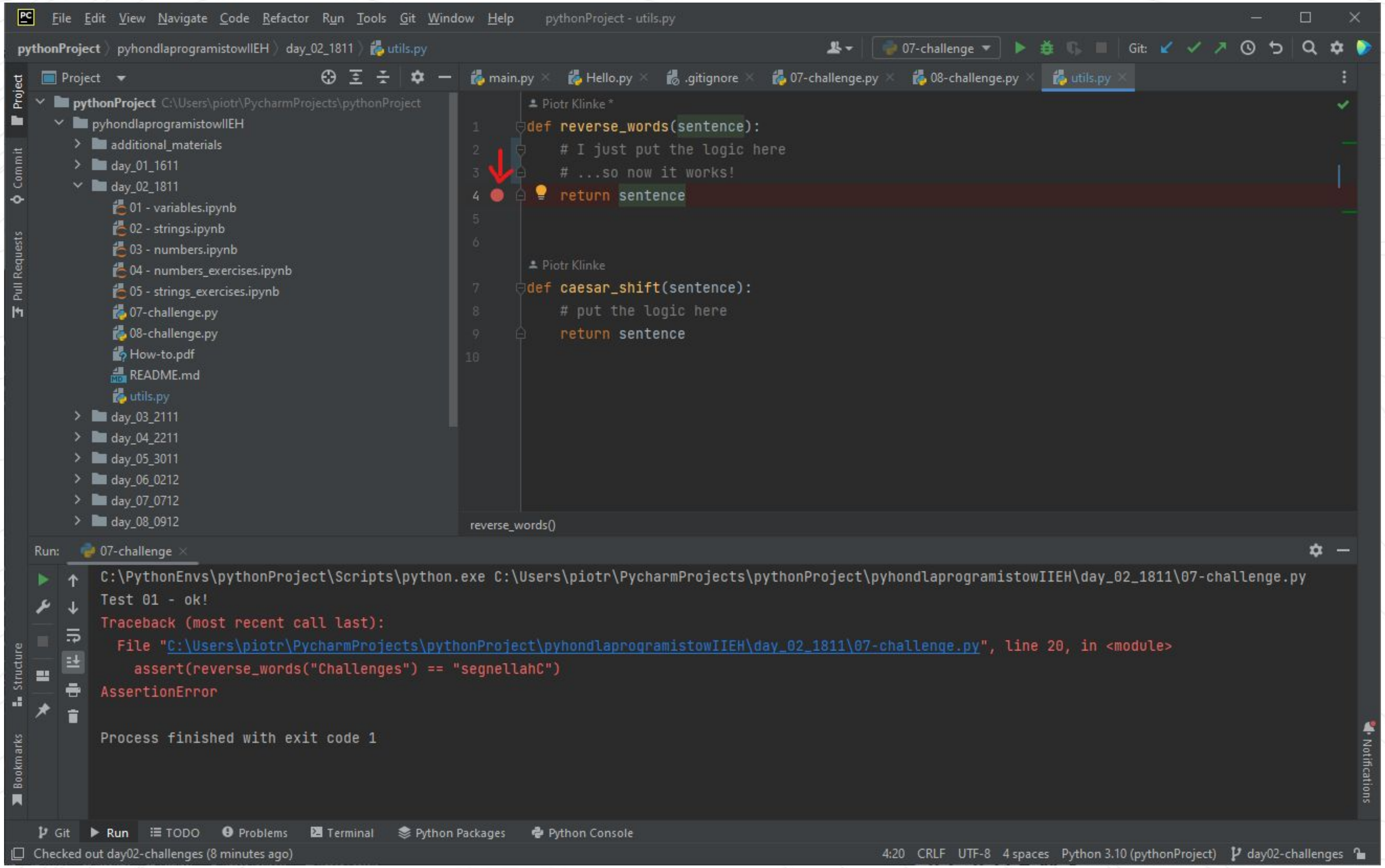
Set a breakpoint – click next to line



```
def reverse_words(sentence):
    # I just put the logic here
    # ...so now it works!
    return sentence


def caesar_shift(sentence):
    # put the logic here
    return sentence
```

```
C:\PythonEnvs\pythonProject\Scripts\python.exe C:\Users\piotr\PycharmProjects\pythonProject\pyhondlaprogramistowIIEH\day_02_1811\07-challenge.py
Test 01 - ok!
Traceback (most recent call last):
  File "C:\Users\piotr\PycharmProjects\pythonProject\pyhondlaprogramistowIIEH\day_02_1811\07-challenge.py", line 20, in <module>
    assert(reverse_words("Challenges") == "segnellahC")
AssertionError

Process finished with exit code 1
```

File Edit View Navigate Code Refactor Run Tools Git Window Help
pythonProject - utils.py
pythonProject › pyhondlaprogramistowIIEH › day_02_1811 › utils.py
07-challenge
Project
main.py
Hello.py
.gitignore
07-challenge.py
08-challenge.py
utils.py
pythonProject C:\Users\piotr\PycharmProjects\pythonProject
pyhondlaprogramistowIIEH
additional_materials
day_01_1611
day_02_1811
01 - variables.ipynb
02 - strings.ipynb
03 - numbers.ipynb
04 - numbers_exercises.ipynb
05 - strings_exercises.ipynb
07-challenge.py
08-challenge.py
How-to.pdf
README.md
utils.py
day_03_2111
day_04_2211
day_05_3011
day_06_0212
day_07_0712
day_08_0912
Piotr Klinke *
Piotr Klinke
reverse_words()
Run: 07-challenge
Git Run TODO Problems Terminal Python Packages Python Console
Checked out day02-challenges (8 minutes ago)
4:20 CRLF UTF-8 4 spaces Python 3.10 (pythonProject) day02-challenges

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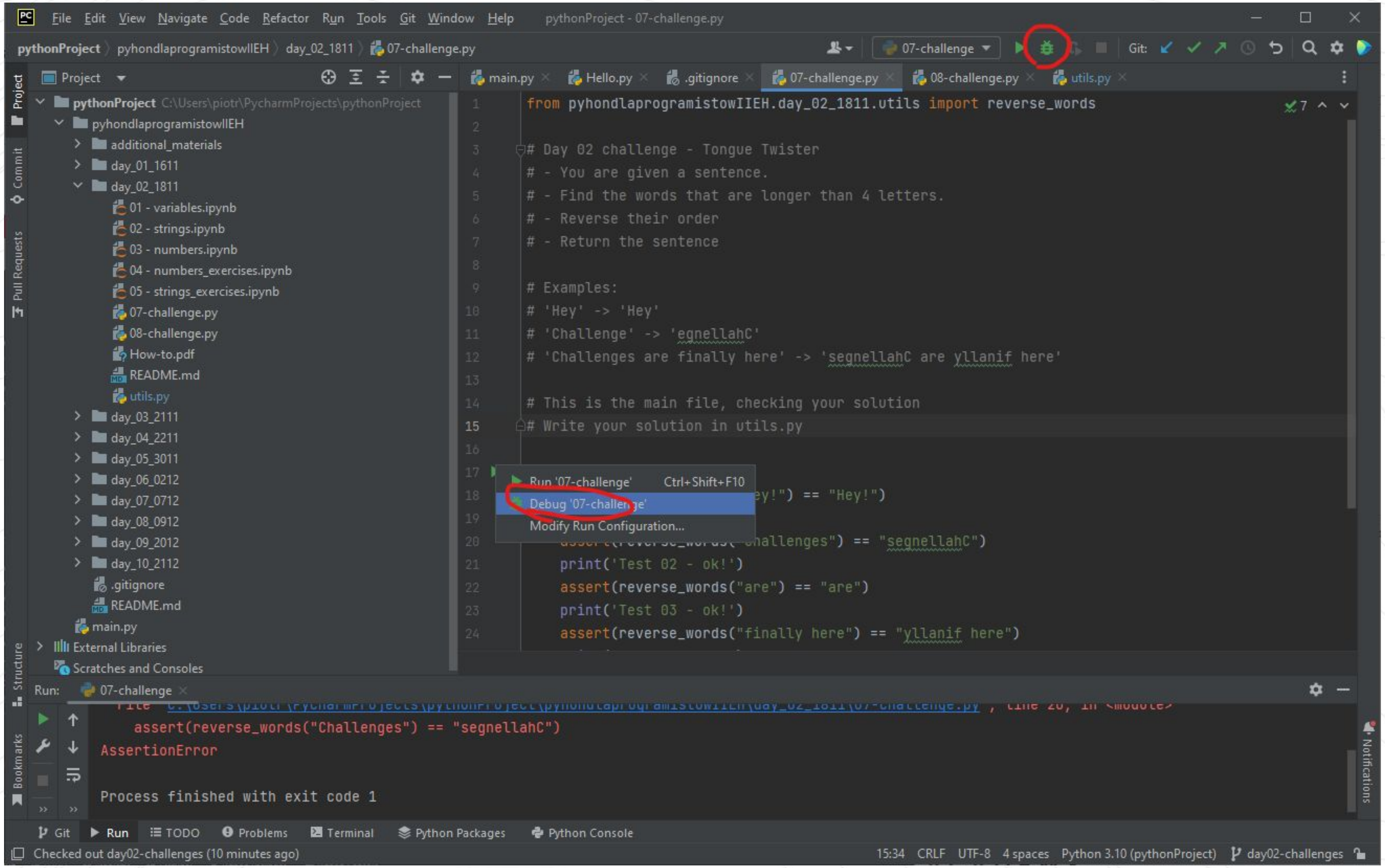
Launch debug



```python
from pyhondlaprogramistowIIEH.day_02_1811.utils import reverse_words

# Day 02 challenge - Tongue Twister
# - You are given a sentence.
# - Find the words that are longer than 4 letters.
# - Reverse their order
# - Return the sentence

# Examples:
# 'Hey' -> 'Hey'
# 'Challenge' -> 'egnellahC'
# 'Challenges are finally here' -> 'segnellahC are yllanif here'

# This is the main file, checking your solution
# Write your solution in utils.py


                                  ey!") == "Hey!")

                                  hallenges") == "segnellahC")
    print('Test 02 - ok!')
    assert(reverse_words("are") == "are")
    print('Test 03 - ok!')
    assert(reverse_words("finally here") == "yllanif here")
```

```
  File "C:\Users\piotr\PycharmProjects\pythonProject\pyhondlaprogramistowIIEH\day_02_1811\07-challenge.py", line 20, in <module>
    assert(reverse_words("Challenges") == "segnellahC")
AssertionError

Process finished with exit code 1
```

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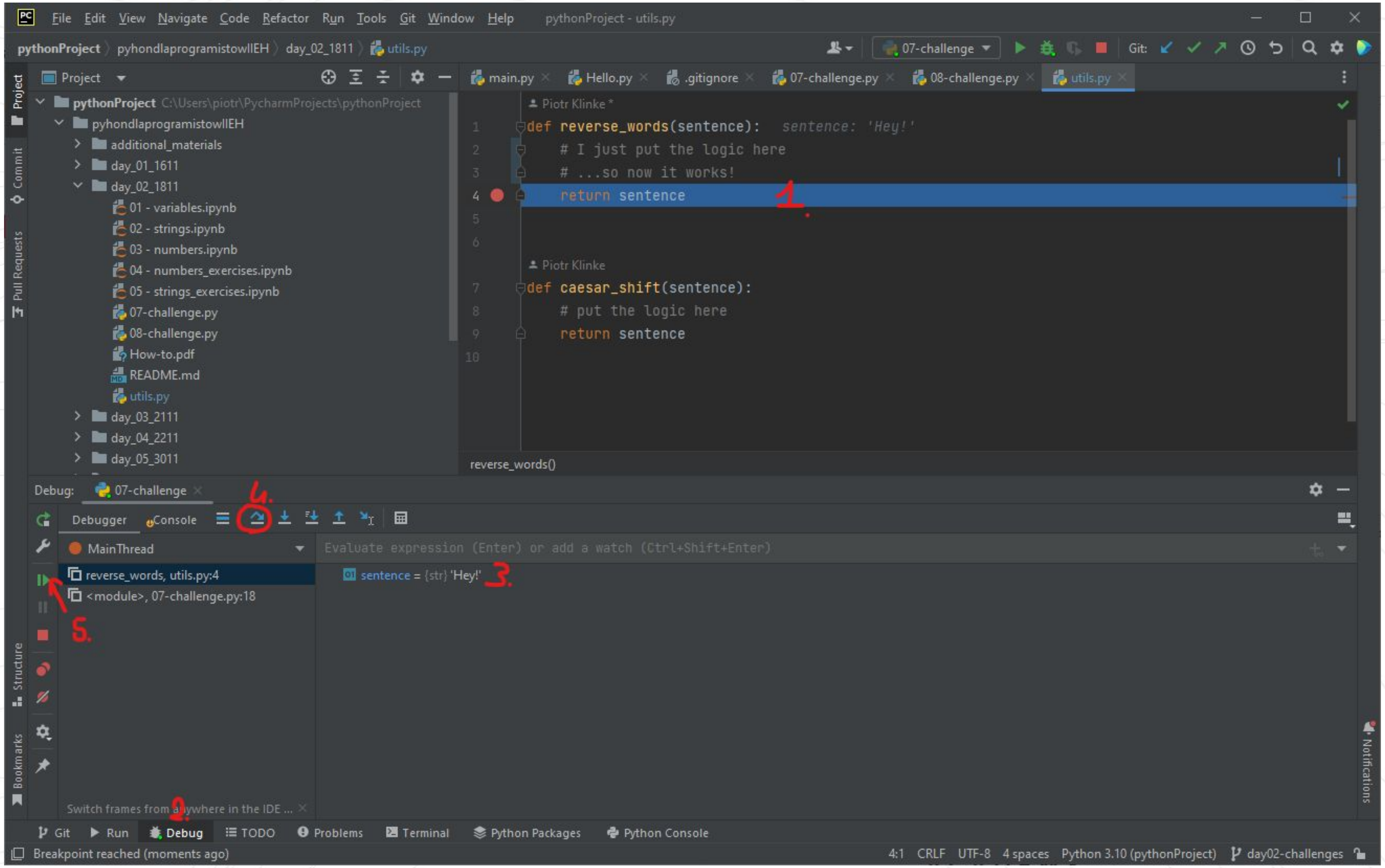
Let's dive deeper!



File Edit View Navigate Code Refactor Run Tools Git Window Help pythonProject - utils.py
pythonProject › pyhondlaprogramistowlIEH › day_02_1811 › utils.py
07-challenge
main.py Hello.py .gitignore 07-challenge.py 08-challenge.py utils.py
Project
pythonProject C:\Users\piotr\PycharmProjects\pythonProject
pyhondlaprogramistowlIEH
additional_materials
day_01_1611
day_02_1811
01 - variables.ipynb
02 - strings.ipynb
03 - numbers.ipynb
04 - numbers_exercises.ipynb
05 - strings_exercises.ipynb
07-challenge.py
08-challenge.py
How-to.pdf
README.md
utils.py
day_03_2111
day_04_2211
day_05_3011
1.
4.
3.
5.
2.
Debug: 07-challenge
Debugger Console
MainThread
reverse_words, utils.py:4
<module>, 07-challenge.py:18
Evaluate expression (Enter) or add a watch (Ctrl+Shift+Enter)
sentence = {str} 'Hey!'
Switch frames from anywhere in the IDE ...
Git Run Debug TODO Problems Terminal Python Packages Python Console
Breakpoint reached (moments ago)
4:1 CRLF UTF-8 4 spaces Python 3.10 (pythonProject) day02-challenges

```
Piotr Klinke *
def reverse_words(sentence):   sentence: 'Hey!'
    # I just put the logic here
    # ...so now it works!
    return sentence


Piotr Klinke
def caesar_shift(sentence):
    # put the logic here
    return sentence
```

reverse_words()

Let's debug:

- blue marked line (1) shows you where you stopped the interpreter
- a new panel (2) appears
- you see the active variables (3)
- you can step into the next line (4)
- you can continue running the code (5)

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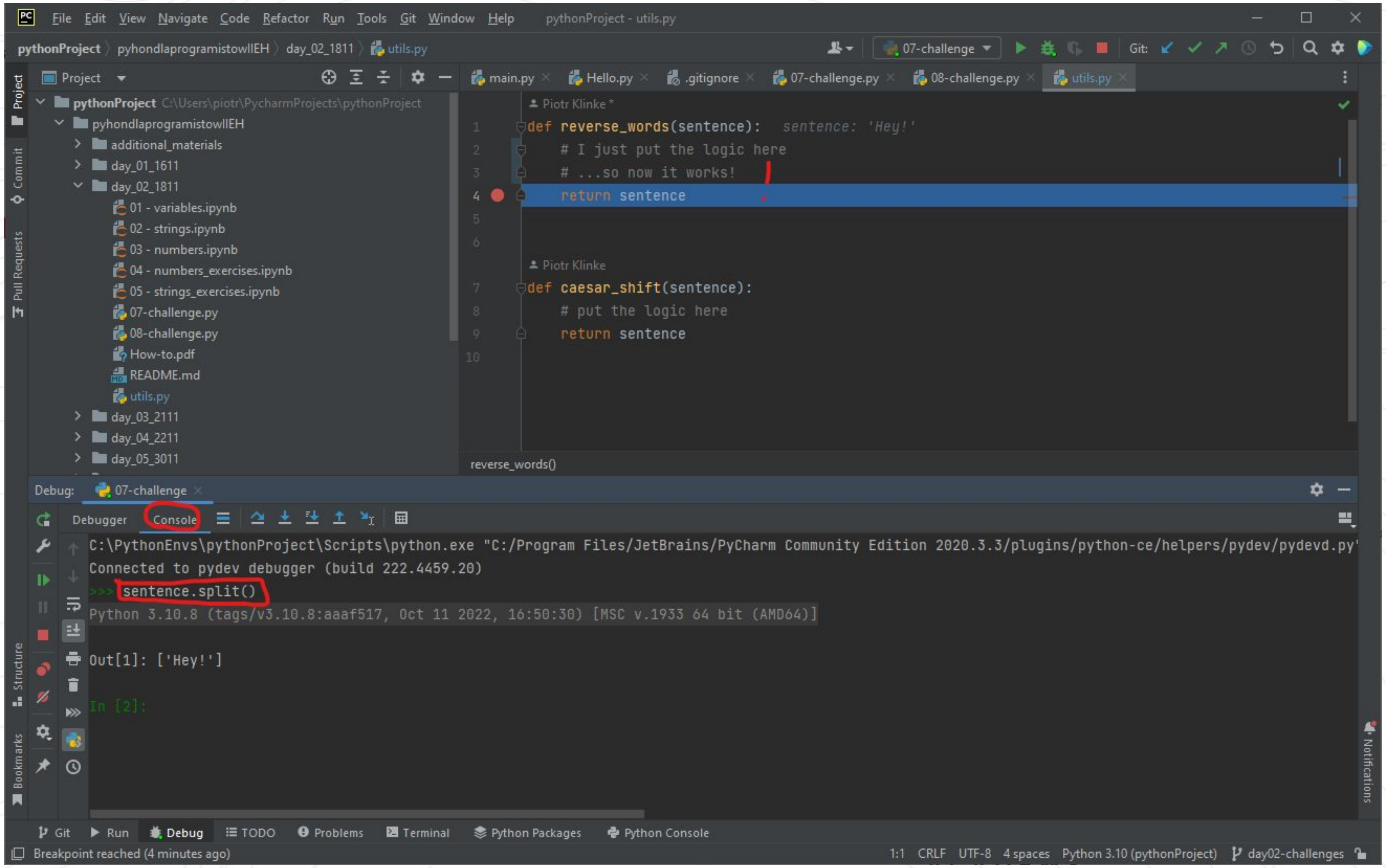
Even deeper...



File Edit View Navigate Code Refactor Run Tools Git Window Help pythonProject - utils.py
pythonProject › pyhondlaprogramistowIEH › day_02_1811 › utils.py
07-challenge
main.py Hello.py .gitignore 07-challenge.py 08-challenge.py utils.py
Debug: 07-challenge
Debugger Console
Git Run Debug TODO Problems Terminal Python Packages Python Console

```
pythonProject C:\Users\piotr\PycharmProjects\pythonProject
  pyhondlaprogramistowIEH
    additional_materials
    day_01_1611
    day_02_1811
      01 - variables.ipynb
      02 - strings.ipynb
      03 - numbers.ipynb
      04 - numbers_exercises.ipynb
      05 - strings_exercises.ipynb
      07-challenge.py
      08-challenge.py
      How-to.pdf
      README.md
      utils.py
    day_03_2111
    day_04_2211
    day_05_3011
```

```python
def reverse_words(sentence):   sentence: 'Hey!'
    # I just put the logic here
    # ...so now it works!
    return sentence


def caesar_shift(sentence):
    # put the logic here
    return sentence
```

reverse_words()

```
C:\PythonEnvs\pythonProject\Scripts\python.exe "C:/Program Files/JetBrains/PyCharm Community Edition 2020.3.3/plugins/python-ce/helpers/pydev/pydevd.py"
Connected to pydev debugger (build 222.4459.20)
>>> sentence.split()
Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:50:30) [MSC v.1933 64 bit (AMD64)]

Out[1]: ['Hey!']

In [2]:
```

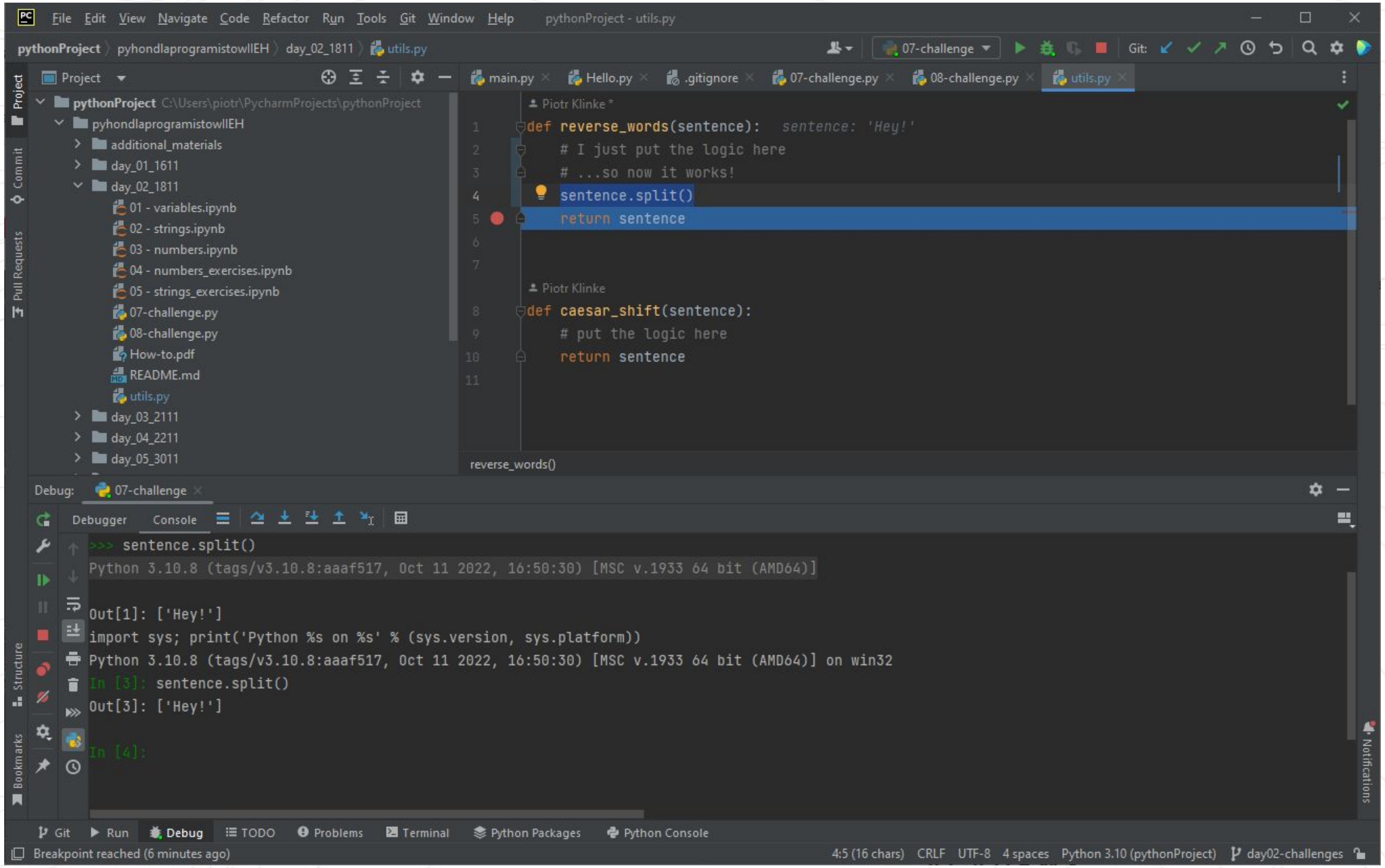
Breakpoint reached (4 minutes ago)   1:1 CRLF UTF-8 4 spaces Python 3.10 (pythonProject) day02-challenges

Let's debug:

- you can use the console to run your code...

- having all the variables available

Even deeper...



```
def reverse_words(sentence):   sentence: 'Hey!'
    # I just put the logic here
    # ...so now it works!
    sentence.split()
    return sentence


def caesar_shift(sentence):
    # put the logic here
    return sentence
```

```
>>> sentence.split()
Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:50:30) [MSC v.1933 64 bit (AMD64)]

Out[1]: ['Hey!']
import sys; print('Python %s on %s' % (sys.version, sys.platform))
Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:50:30) [MSC v.1933 64 bit (AMD64)] on win32
In [3]: sentence.split()
Out[3]: ['Hey!']

In [4]:
```

Let's debug:

- you can even paste sth you came up with into the code and run it with alt + shift + E

03.

TDD
Test Driven Development

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Test-Driven Development

Write a test checking what you want to get - before implementing it

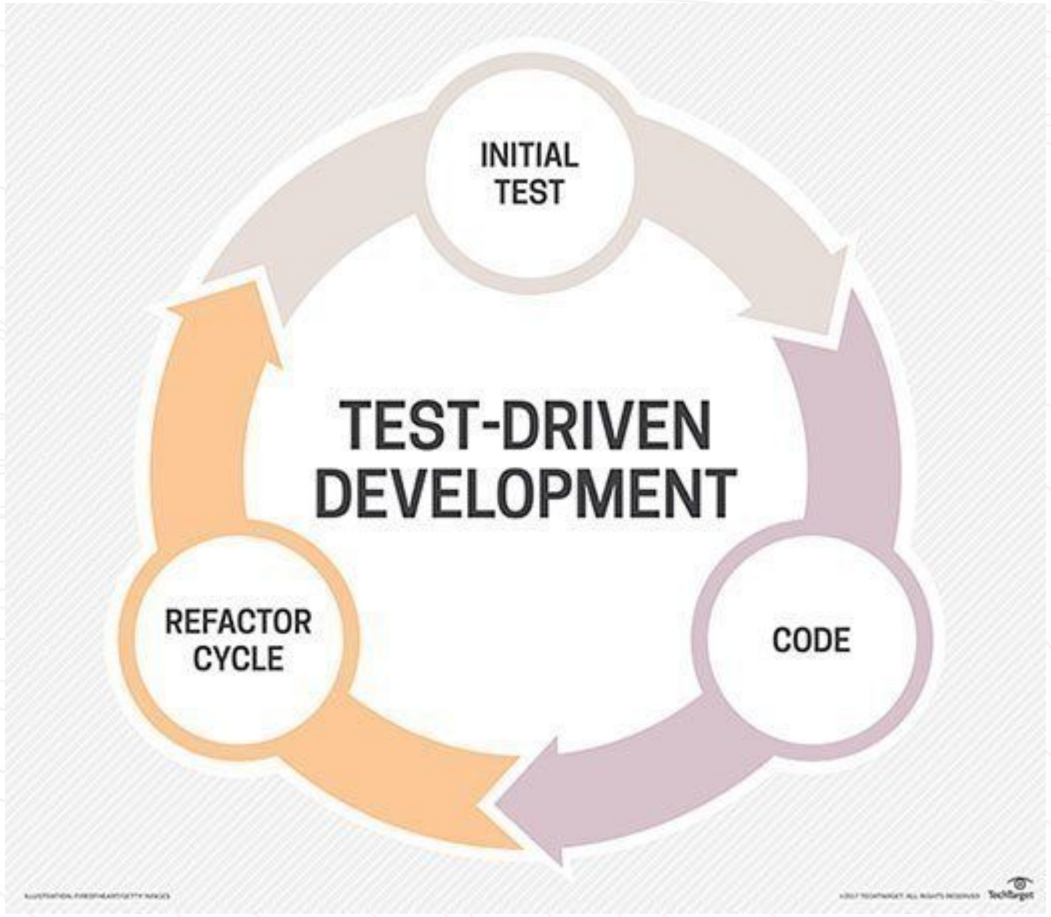
- describe functionality with tests
- use different examples

Implement your solution

- write atomic functions - small, independent
- commit your changes as soon as sth works!!
- use git often

Summarize and take a step back and go back to writing more atomic tests

- use debug to check
- try to run the whole solution



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Dzięki!

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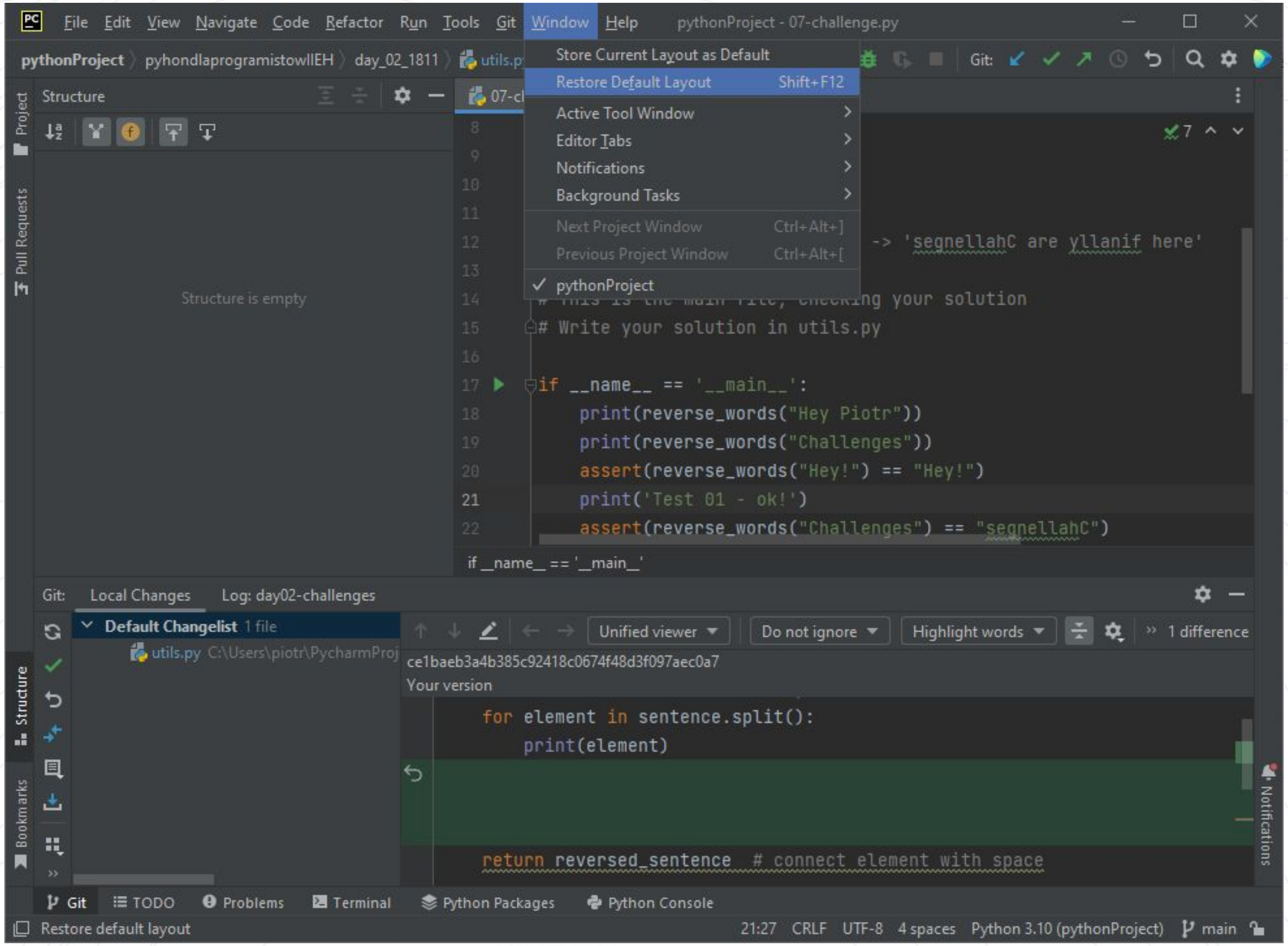
How to set up Git GUI in PyCharm (if some gui parts are different)



```
 -> 'segnellahC are yllanif here'
# This is the main file, checking your solution
# Write your solution in utils.py

if __name__ == '__main__':
    print(reverse_words("Hey Piotr"))
    print(reverse_words("Challenges"))
    assert(reverse_words("Hey!") == "Hey!")
    print('Test 01 - ok!')
    assert(reverse_words("Challenges") == "segnellahC")
```

if __name__ == '__main__'

ce1baeb3a4b385c92418c0674f48d3f097aec0a7

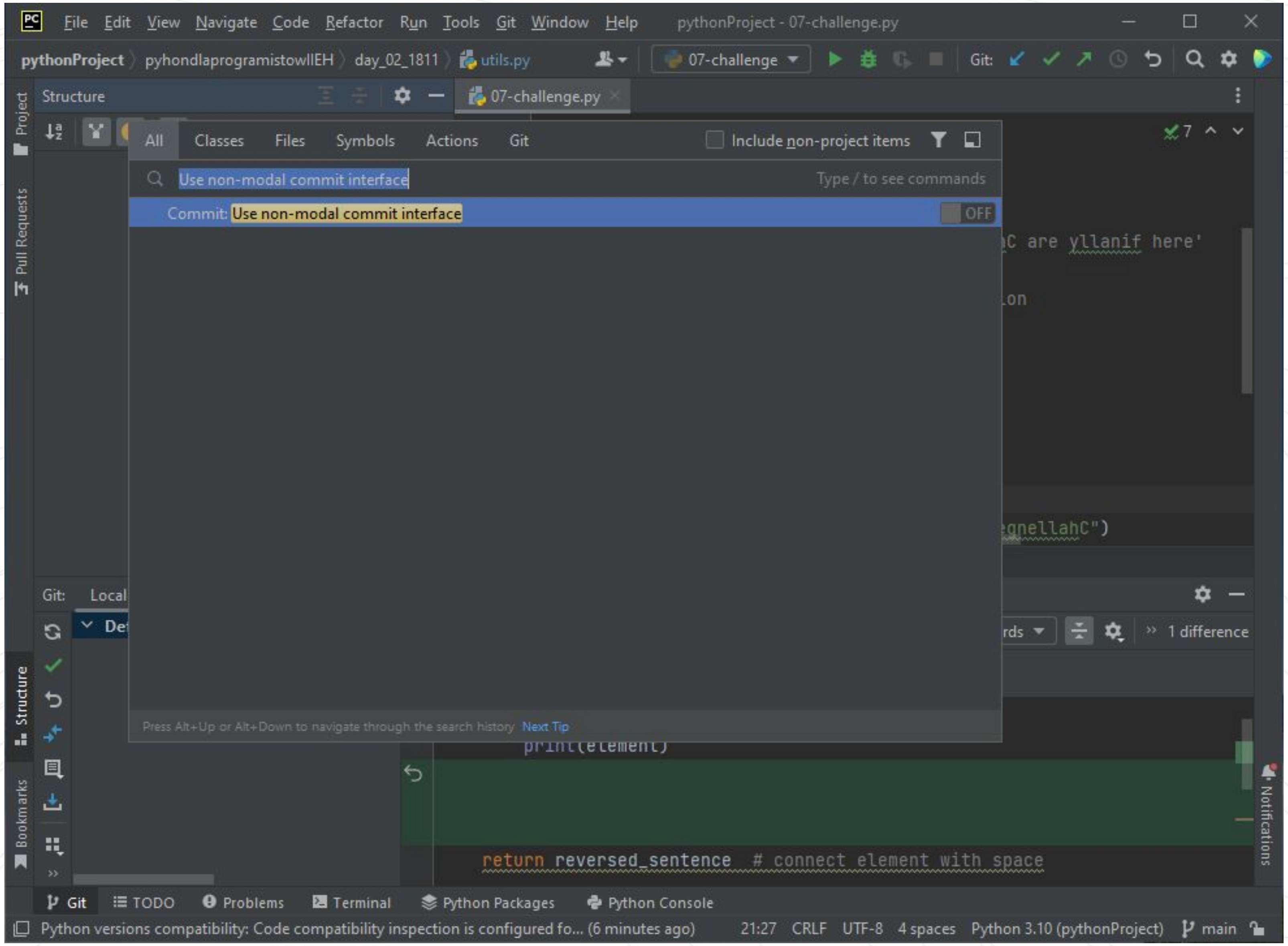
```
    for element in sentence.split():
        print(element)

    return reversed_sentence  # connect element with space
```

How to set up Git GUI in PyCharm (if some gui parts are different)

Double click shift and type:

Use non-modal commit interface



Use non-modal commit interface

Commit: Use non-modal commit interface OFF

Press Alt+Up or Alt+Down to navigate through the search history Next Tip

Python versions compatibility: Code compatibility inspection is configured fo... (6 minutes ago) 21:27 CRLF UTF-8 4 spaces Python 3.10 (pythonProject) main

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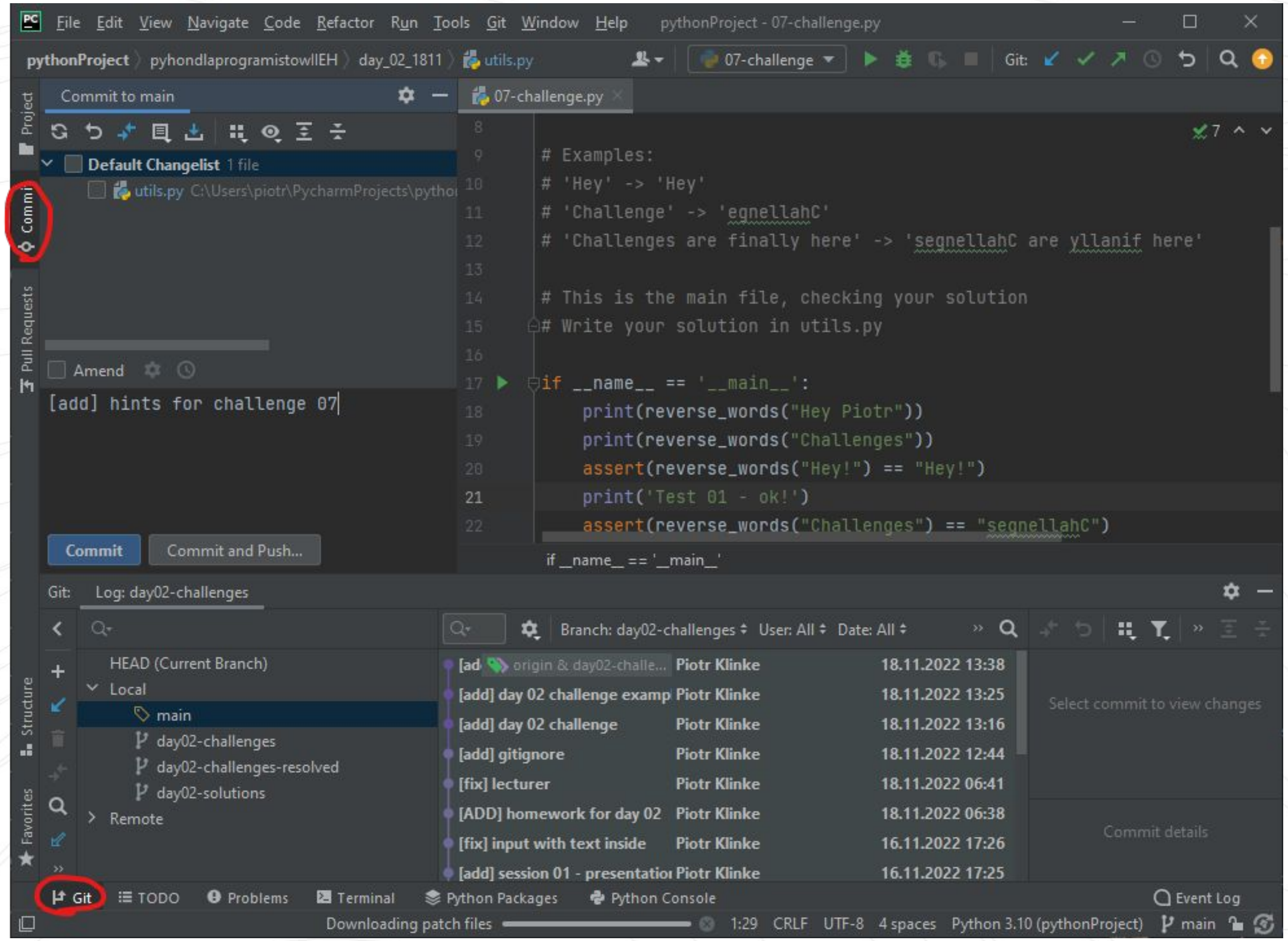
How to set up Git GUI in PyCharm (if some gui parts are different)

You should have both windows as seen here:



```
[add] hints for challenge 07
```

```python

# Examples:
# 'Hey' -> 'Hey'
# 'Challenge' -> 'egnellahC'
# 'Challenges are finally here' -> 'segnellahC are yllanif here'

# This is the main file, checking your solution
# Write your solution in utils.py

if __name__ == '__main__':
    print(reverse_words("Hey Piotr"))
    print(reverse_words("Challenges"))
    assert(reverse_words("Hey!") == "Hey!")
    print('Test 01 - ok!')
    assert(reverse_words("Challenges") == "segnellahC")
```

if __name__ == '__main__'

[ad origin & day02-challe...	Piotr Klinke	18.11.2022 13:38
[add] day 02 challenge examp	Piotr Klinke	18.11.2022 13:25
[add] day 02 challenge	Piotr Klinke	18.11.2022 13:16
[add] gitignore	Piotr Klinke	18.11.2022 12:44
[fix] lecturer	Piotr Klinke	18.11.2022 06:41
[ADD] homework for day 02	Piotr Klinke	18.11.2022 06:38
[fix] input with text inside	Piotr Klinke	16.11.2022 17:26
[add] session 01 - presentatio	Piotr Klinke	16.11.2022 17:25

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