

IP1: Configuration Management System

Repository Link

The student will create test cases to demonstrate how the following situations are handled in the CMS and related processes:

- Code check out
- Code check in
- Code snapshot (or release point)
- Code in development by two users, first one checks out code, second checks out code, makes changes and checks in, first makes changes and needs to check in.
- Code changes need to be rolled back to a previous level.
- One developer is working on a new version, one is fixing bugs in a previous release.

Developer1 created repository for a project that contains method to sort list. The program takes unsorted list and sort it by using QuickSort algorithm. This is the first release for version 1.0.

The screenshot shows a version control interface with the following components:

- Top Bar:** Includes 'Current Repository' (CS504-Individual-Proje...), 'Current Branch' (main), and a 'Fetch origin' button (Last fetched 8 minutes ago).
- Changes Panel:** Shows '4 changed files' with a list:
 - .DS_Store
 - .../QuickSort.cpython-38.pyc
 - Submission1/main.py
 - Submission1/QuickSort.py (selected)
- Commit Form:** Includes a commit message 'initial commit', a 'Description' field, and a 'Commit to main' button.
- Code Diff:** Displays the content of 'Submission1/QuickSort.py' with line numbers 1 through 26. The code implements a QuickSort algorithm in Python.

```
@@ -0,0 +1,29 @@
1 +def QuickSort(arr):
2 +
3 +     elements = len(arr)
4 +
5 +     #Base case
6 +     if elements < 2:
7 +         return arr
8 +
9 +     current_position = 0 #Position of the partitioning element
10 +
11 +     for i in range(1, elements): #Partitioning loop
12 +         if arr[i] <= arr[0]:
13 +             current_position += 1
14 +             temp = arr[i]
15 +             arr[i] = arr[current_position]
16 +             arr[current_position] = temp
17 +
18 +     temp = arr[0]
19 +     arr[0] = arr[current_position]
20 +     arr[current_position] = temp #Brings pivot to it's appropriate position
21 +
22 +     left = QuickSort(arr[0:current_position]) #Sorts the elements to the left of
23 +     right = QuickSort(arr[current_position+1:elements]) #sorts the elements to
24 +     # of pivot
25 +     arr = left + [arr[current_position]] + right #Merging everything together
26 +
```

main ▾

CS504-Individual-Project-ScottZhou / Submission1 /



Zero0927 initial commit

..



__pycache__

initial commit



QuickSort.py

initial commit



main.py

initial commit

Latest release

1.0

253663b

Compare ▾

Initial Release

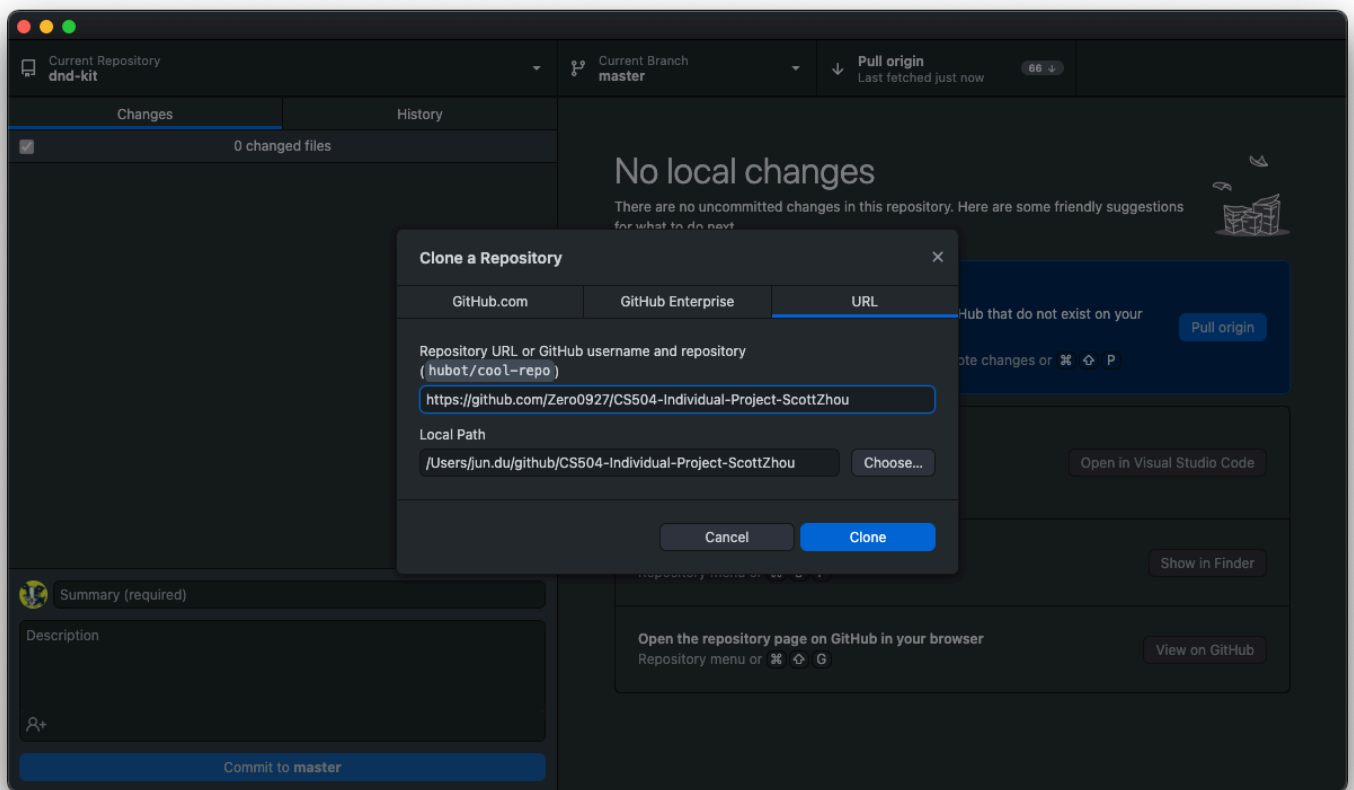


Zero0927 released this now

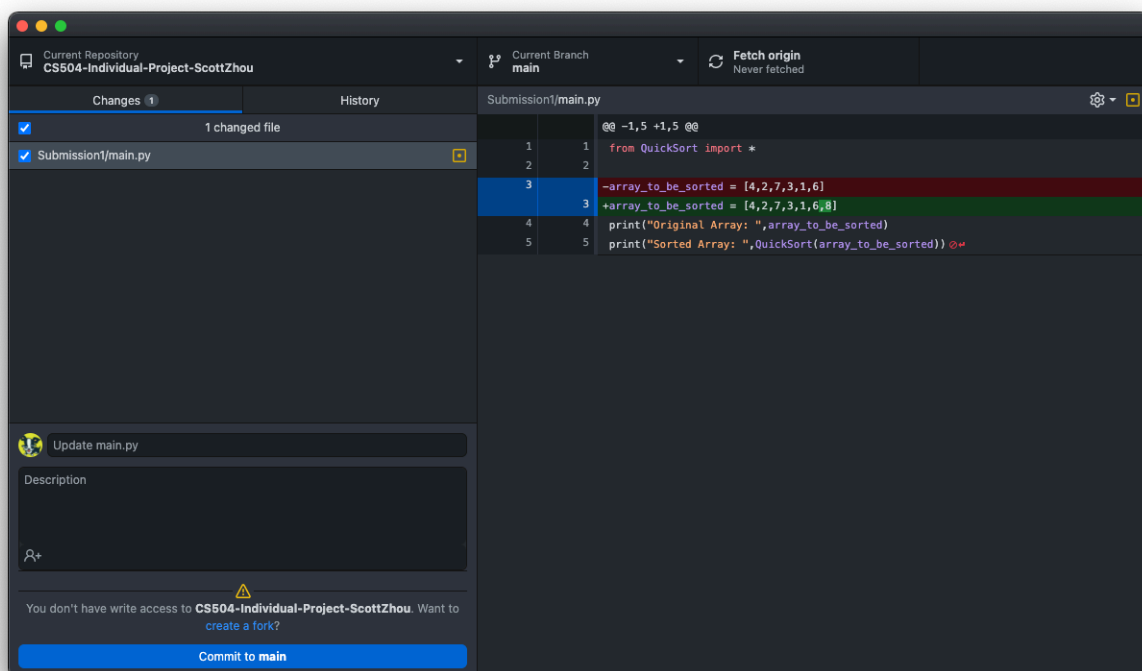
Initial release for version 1.0:
Quick sort algorithm
some test case



Developer2 clone the repository to its local directory and start working on it.



Developer 2 adding extra element into the test list and push it to Github.



Zero0927 / CS504-Individual-Project-ScottZhou

Unwatch

<> Code

Issues

Pull requests

Actions

Projects

Wiki

Security

Insights

main

1 branch

1 tag

Go to file

Add file

Code

junqdu

update: array_to_be_sorted

466f420 5 minutes ago 5 commits

Submission1

update: array_to_be_sorted

5 minutes ago

Developer1 pull the repo, add new test case in the main program, push it to the Github.

Current Repository
CS504-Individual-Proje...

Current Branch
main

Fetch origin
Last fetched 3 minutes ago

Changes 1

History

Submission1/main.py

1 changed file

Submission1/main.py

2	2	@@ -2,4 +2,9 @@ from QuickSort import *
3	3	array_to_be_sorted = [4,2,7,3,1,6,8,9]
4	4	print("Original Array: ",array_to_be_sorted)
5	5	+print("Sorted Array: ",QuickSort(array_to_be_sorted))
6	6	+
7	7	+
8	8	+array_to_be_sorted = [1,3,9,6,8,5]
9	9	+print("Original Array: ",array_to_be_sorted)
10	10	print("Sorted Array: ",QuickSort(array_to_be_sorted))

Add another test case

Description

 Zero0927 Add another test case

2 contributors  

10 lines (7 sloc) 298 Bytes

```
1 from QuickSort import *
2
3 array_to_be_sorted = [4,2,7,3,1,6,8,9]
4 print("Original Array: ",array_to_be_sorted)
5 print("Sorted Array: ",QuickSort(array_to_be_sorted))
6
7
8 array_to_be_sorted = [1,3,9,6,8,5]
9 print("Original Array: ",array_to_be_sorted)
10 print("Sorted Array: ",QuickSort(array_to_be_sorted))
```

After it push to the Github, Developer1 realize it is not a good test case, so he revert it to the previous commit.

Current Repository
CS504-Individual-Proje...

Current Branch
main

Push origin
Last fetched 2 minutes ago 1 ↑

Changes

History

Select Branch to Compare...

Revert "Add another test ..."
Scott Zhou · just now

Add another test case
Scott Zhou · 3m

Merge pull request #1 from Zero...
Scott Zhou · 7m

update: array_to_be_sorted
Jun Du · 13m

update: array_to_be_sorted
Jun Du · 17m

initial commit
Scott Zhou · 1h 1.0

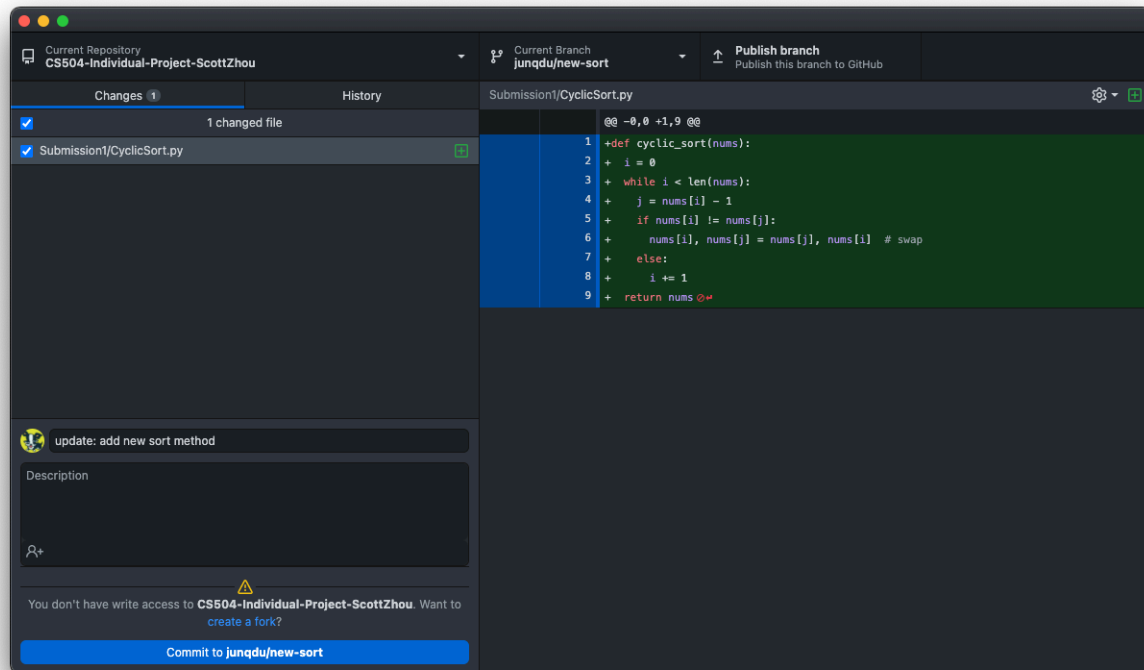
Revert "Add another test case"

Scott Zhou 88bb66b 1 changed file

This reverts commit 39a878d646e60d8f882500b76ec00d59e4caf670.

Submission1/main.py			@@ -2,9 +2,4 @@ from QuickSort import *
2	2		
3	3		array_to_be_sorted = [4,2,7,3,1,6,8,9]
4	4		print("Original Array: ",array_to_be_sorted)
5			-print("Sorted Array: ",QuickSort(array_to_be_sort
6			d))
7			-
8			-array_to_be_sorted = [1,3,9,6,8,5]
9			-print("Original Array: ",array_to_be_sorted)
10	5		print("Sorted Array: ",QuickSort(array_to_be_sort
			d))

Developer 2 create new branch want to implement a new sorting algorithm.



Developer 2 start a pull request to merge it into main branch.

update: add new sort method #2

Edit Open with ▾

Open junqdu wants to merge 2 commits into `main` from `junqdu/new-sort`

Conversation 0 Commits 2 Checks 0 Files changed 2

+9 -4

Commits on Jul 23, 2021

update: add new sort method

junqdu committed 3 minutes ago

befe3fa

<>


update: remove unused code

junqdu committed 2 minutes ago


1d33ac6


<>


Developer1 approve Developer2 merge request and start merging.

 **Zero0927 / CS504-Individual-Project-ScottZhou** Unwatch

[Code](#) [Issues](#) [Pull requests](#) [Actions](#) [Projects](#) [Wiki](#) [Security](#) [Insights](#)

 **main**


 **3 branches**



 **1 tag**

[Go to file](#)

[Add file](#)

[Code](#)


 **Zero0927** Merge pull request **#2** from Zero0927/junqdu/new-sort c147ded 1 minute ago 12 commits

 Submission1	Merge pull request #2 from Zero0927/junqdu/new-sort	1 minute ago
 Submission2	Submission for HOS1	12 days ago

In the meantime, Developer1 found bug and fixed it.

Current Repository
CS504-Individual-Proje...

Current Branch
main

 **Fetch origin**
Last fetched just now


Changes **1** | History

Submission1/QuickSort.py


☒ 1 changed file

☒ Submission1/QuickSort.py

...	2	2	@@ -2,6 +2,10 @@ def QuickSort(arr):
	3	3	elements = len(arr)
	4	4	
	5	+	#Base case
	6	+	if elements < 2:
	7	+	return arr
	8	+	
	5	9	current_position = 0 #Position of the partitioning element
	6	10	
	7	11	for i in range(1, elements): #Partitioning loop
	...		@@ @@

 **Fix bug missing base case**

Description



Commit to main

main ▾ 3 branches 1 tag

Go to file

Add file ▾

Code ▾



Zero0927 Fix bug missing base case

bbe6635 now 13 commits



Submission1

Fix bug missing base case

now

Bug has been fixed by Developer1, New algorithm has been added by Developer 2.