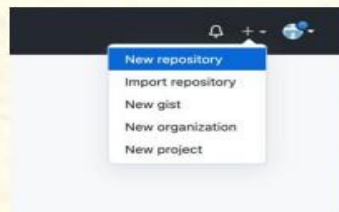۱- یک repository جدید در github ایجاد کنید:
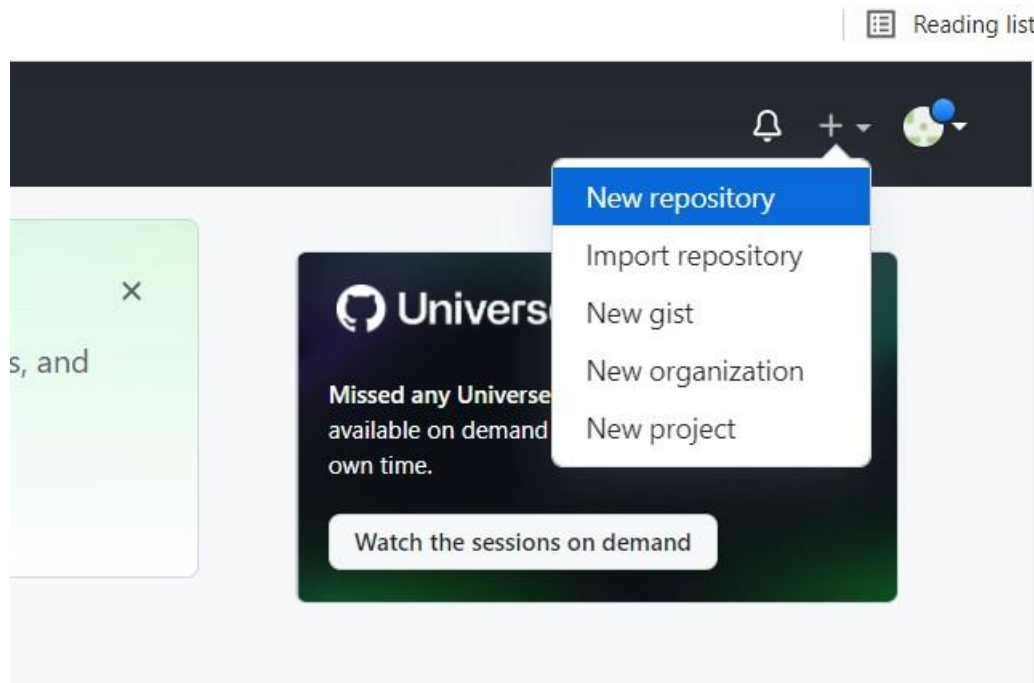

– روی سیستم خودتان یک فولدر جدید ایجاد کرده و این repository خالی را clone کنید.

– فایل‌های پاسخ همه تمرینات مکتب را در این فولدر کپی کنید و بعد از اضافه کردن به گیت،
روی repository قرار دهید.

لیست دستوراتی که اجرا کردید و لینک repository را در پاسخنامه این تمرین درج کنید.

۲- از repository زیر clone بگیرید:

https://github.com/mikepound/mazesolving

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.

Owner *   Repository name *

🌐 zeynabyousefi ▾   / | zeynab_yousefi_Hw6_maktab65 | ✓

Great repository names are sho zeynab_yousefi_Hw6_maktab65 is available. ow about **turbo-octo-umbrella**?

Description (optional)

[   ]

⦿ ☐ Public

https://github.com/zeynabyousefi/zeynab_yousefi_Hw6_maktab65

Quick setup — if you've done this kind of thing before

⊞ Set up in Desktop   or   [HTTPS SSH]   https://github.com/zeynabyousefi/zeynab_yousefi_Hw6_maktab65.git   ⧉

Get started by creating a new file or uploading an existing file. We recommend every repository include a README, LICENSE, and .gitignore.

...or create a new repository on the command line

```
echo "# zeynab_yousefi_Hw6_maktab65" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/zeynabyousefi/zeynab_yousefi_Hw6_maktab65.git
git push -u origin main
```

Clone an empty repository https://github.com/zeynabyousefi/zeynab_yousefi_Hw6_maktab65

```
C:\Users\ASUS>cd Desktop

C:\Users\ASUS\Desktop>cd zeynab-yousefi-hw6-maktab65

C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65>git clone https://github.com/zeynabyousefi/zeynab_yousefi_Hw6_maktab65
.git
Cloning into 'zeynab_yousefi_Hw6_maktab65'...
warning: You appear to have cloned an empty repository.

C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65>_
```

Clone a repository GitHub - mikepound/mazesolving: A variety of algorithms to solve mazes from an input image

```
C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65>git clone https://github.com/mikepound/mazesolving
Cloning into 'mazesolving'...
remote: Enumerating objects: 128, done.
remote: Total 128 (delta 0), reused 0 (delta 0), pack-reused 128
Receiving objects:  70% (90/128), 37.68 MiB | 774.00 KiB/s
Receiving objects: 100% (128/128), 37.90 MiB | 686.00 KiB/s, done.
Resolving deltas: 100% (60/60), done.
```

$ git log

List commit history of current branch. -n count limits list to last n commits.

```
commit 8d6ab599240015a16c2db38b0ff65c8ef0d43844
Merge: a5f3be3 86474e5
Author: mikepound <mppound@gmail.com>
Date:    Sat Feb 25 08:57:12 2017 +0000

    Merge pull request #2 from JosephBywater/master

    Removed semicolons from line endings.

commit 86474e5558bd0e9a7841c50d74c61a050bef1a9d
Author: TheJJ100100 <jabjab.co.uk@gmail.com>
Date:    Fri Feb 24 23:43:48 2017 +0000

    Removed semicolons from line endings. Closes #1

commit a5f3be30cd325f43b9487c681c3c25377f314988
Author: Michael Pound <mppound@gmail.com>
Date:    Wed Feb 22 11:35:47 2017 +0000

    Readme updates.

commit 7fda80f7d01102b17b37ef9daa0c240277b280ae
Author: Michael Pound <mppound@gmail.com>
Date:    Wed Feb 22 11:28:23 2017 +0000

    Added a logo maze

commit 2e503e42a0d7707aad403a1b7dc68fdad9f84df2
Author: Michael Pound <mppound@gmail.com>
Date:    Sun Feb 12 19:30:39 2017 +0000

    Minor changes and a bug fix.

commit 40826e863135b46fdd679b5dd2e9dab47446e1e4
Author: Michael Pound <mppound@gmail.com>
Date:    Sun Feb 12 17:42:54 2017 +0000

    Uploaded files
```

```
:...skipping...
commit 524ced5899263ca6ca77bc634af7eef2d858d7c9 (HEAD -> master, origin/master, origin/HEAD)
Merge: e81d36b 050f16b
Author: Michael Pound <michael.pound@nottingham.ac.uk>
Date:   Thu May 21 23:14:12 2020 +0100

    Merge pull request #22 from H4CKY54CK/master

    Suppressing Decompression Bomb warning.

commit 050f16b9c6603f5c4769f1434e25da885e17ba57
Author: H4CKY54CK <tk13xr37@gmail.com>
Date:   Sun May 17 22:50:18 2020 -0400

    Update solve.py

commit e81d36ba767e2bcbe85e1e916c7154ac453466d5
Author: mikepound <mppound@gmail.com>
Date:   Tue Feb 28 14:04:06 2017 +0000

    Fixed issue with missing width/height in PIL

commit 6cba31af221ab18154fda9ff1dd99c7f02c2208a
Author: mikepound <mppound@gmail.com>
Date:   Tue Feb 28 08:49:23 2017 +0000

    Update README.md

    Altered the readme to refer to the wiki.

commit 57b37de50674b3238c0a821765d40eabc0a98f74
Author: Michael Pound <mppound@gmail.com>
Date:   Sun Feb 26 17:00:45 2017 +0000
:...skipping...
commit 524ced5899263ca6ca77bc634af7eef2d858d7c9 (HEAD -> master, origin/master, origin/HEAD)
Merge: e81d36b 050f16b
Author: Michael Pound <michael.pound@nottingham.ac.uk>
Date:   Thu May 21 23:14:12 2020 +0100

    Merge pull request #22 from H4CKY54CK/master

    Suppressing Decompression Bomb warning.

commit 050f16b9c6603f5c4769f1434e25da885e17ba57
Author: H4CKY54CK <tk13xr37@gmail.com>
Date:   Sun May 17 22:50:18 2020 -0400
```

```
commit 148349cbd8d4d0e8846d9f3704d3d8650a18666c
Merge: d7fd5b5 a2fa1a0
Author: mikepound <mppound@gmail.com>
Date:   Sat Feb 25 22:58:19 2017 +0000

    Merge pull request #6 from jmitchell/profiling

    Instrument with profiling to facilitate optimizations

commit d7fd5b5f20b21804e1dd692e37f93913c6fdbd21
Merge: 8d6ab59 c0ed4a2
Author: mikepound <mppound@gmail.com>
Date:   Sat Feb 25 22:57:42 2017 +0000

    Merge pull request #5 from jmitchell/cleanup

    Standardize formatting

commit 93608238c314a868faa0be1f2b1a272adb0fcd6c
Author: Jacob Mitchell <jmitchell@member.fsf.org>
Date:   Sat Feb 25 13:36:01 2017 -0800

    Use heapq priority queue implementation instead of FibHeap

    Based on runs of profile.py, the heapq implementation is significantly
    faster.

commit fc2a587dde128595793ea794fd8e0bc7377ba014
Author: PhyNerd <jan.wrk.fb@gmail.com>
Date:   Sat Feb 25 22:33:30 2017 +0100

    entrance/exit

    Since there can only be one entrance/exit to the maze there is no need to continue searching after finding one.

commit 0cdc72fafafab4a15cf7e9babf40d7e8dd7f38d3
Author: Jacob Mitchell <jmitchell@member.fsf.org>
Date:   Sat Feb 25 13:01:38 2017 -0800

    Add PriorityQueue abstract class and FibHeap shim

    This will make it easier to test different priority queue
    implementations.

commit a2fa1a0dee97a9e48281bc179bf8f01d7c72859c
Author: Jacob Mitchell <jmitchell@member.fsf.org>
:_
```

```
C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65\mazesolving>git log
commit 524ced5899263ca6ca77bc634af7eef2d858d7c9 (HEAD -> master, origin/master, origin/HEAD)
Merge: e81d36b 050f16b
Author: Michael Pound <michael.pound@nottingham.ac.uk>
Date:   Thu May 21 23:14:12 2020 +0100

    Merge pull request #22 from H4CKY54CK/master

    Suppressing Decompression Bomb warning.

commit 050f16b9c6603f5c4769f1434e25da885e17ba57
Author: H4CKY54CK <tk13xr37@gmail.com>
Date:   Sun May 17 22:50:18 2020 -0400

    Update solve.py

commit e81d36ba767e2bcbe85e1e916c7154ac453466d5
Author: mikepound <mppound@gmail.com>
Date:   Tue Feb 28 14:04:06 2017 +0000

    Fixed issue with missing width/height in PIL

commit 6cba31af221ab18154fda9ff1dd99c7f02c2208a
Author: mikepound <mppound@gmail.com>
Date:   Tue Feb 28 08:49:23 2017 +0000

    Update README.md

    Altered the readme to refer to the wiki.

:...skipping...
commit 524ced5899263ca6ca77bc634af7eef2d858d7c9 (HEAD -> master, origin/master, origin/HEAD)
Merge: e81d36b 050f16b
Author: Michael Pound <michael.pound@nottingham.ac.uk>
Date:   Thu May 21 23:14:12 2020 +0100

    Merge pull request #22 from H4CKY54CK/master
```

```
:...skipping...
commit 524ced5899263ca6ca77bc634af7eef2d858d7c9 (HEAD -> master, origin/master, origin/HEAD)
commit 524ced5899263ca6ca77bc634af7eef2d858d7c9 (HEAD -> master, origin/master, origin/HEAD)
Merge: e81d36b 050f16b
Author: Michael Pound <michael.pound@nottingham.ac.uk>
Date:   Thu May 21 23:14:12 2020 +0100

    Merge pull request #22 from H4CKY54CK/master

    Suppressing Decompression Bomb warning.

commit 050f16b9c6603f5c4769f1434e25da885e17ba57
Author: H4CKY54CK <tk13xr37@gmail.com>
Date:   Sun May 17 22:50:18 2020 -0400

    Update solve.py

commit e81d36ba767e2bcbe85e1e916c7154ac453466d5
Author: mikepound <mppound@gmail.com>
Date:   Tue Feb 28 14:04:06 2017 +0000

    Fixed issue with missing width/height in PIL

commit 6cba31af221ab18154fda9ff1dd99c7f02c2208a
Author: mikepound <mppound@gmail.com>
Date:   Tue Feb 28 08:49:23 2017 +0000

    Update README.md

    Altered the readme to refer to the wiki.

commit 57b37de50674b3238c0a821765d40eabc0a98f74
Author: Michael Pound <mppound@gmail.com>
Date:   Sun Feb 26 17:00:45 2017 +0000

    Updated readme files.

commit c30deebd66076607d44ebfc5a92df31296a9c483
Author: Michael Pound <mppound@gmail.com>
Date:   Sun Feb 26 16:52:01 2017 +0000

    Improved image output to avoid Numpy. Now works with larger 15k images. Removed/replaced vertical15k.png.

commit 4ad672cfec4288d1fd139a5074387053c9136538
Merge: 0e88d6d b5ae1ae
Author: mikepound <mppound@gmail.com>
```

View differences of two commits:

git diff <commit_1> <commit_2>

```
C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65\mazesolving>git diff 40826e863135b46fdd679b5dd2e9dab47446e1e4   1b381a6
db307dae83a9bc3cf5c470897b2d516b0
diff --git a/.gitignore b/.gitignore
deleted file mode 100644
index 225fc6f..0000000
--- a/.gitignore
+++ /dev/null
@@ -1 +0,0 @@
-/__pycache__
diff --git a/FibonacciHeap.py b/FibonacciHeap.py
deleted file mode 100644
index 1ed91b3..0000000
--- a/FibonacciHeap.py
+++ /dev/null
@@ -1,189 +0,0 @@
-class FibHeap:
-
-    #### Node Class ####
-    class Node:
-        def __init__(self, key, value):
-            # key value degree mark / prev next child parent
-            self.key = key;
-            self.value = value;
-            self.degree = 0;
-            self.mark = False;
-            self.parent = self.child = None;
-            self.previous = self.next = self;
-
-        def issingle(self):
-            return self == self.next;
-
-        def insert(self, node):
-            if node == None:
-                return;
-
-            self.next.previous = node.previous;
-            node.previous.next = self.next;
-            self.next = node;
-            node.previous = self;
-
-
:_
```

```
-                current = temp;
-
-                other.remove();
-                current.addchild(other);
-                degreeroots[currentdegree] = None;
-                currentdegree += 1;
-
-            degreeroots[currentdegree] = current;
-            if currentpointer == self.minnode:
-                break;
-
-        # 3: Remove current root and find new minnode
-        self.minnode = None;
-        newmaxdegree = 0;
-        for d in range (0,logsize):
-            if degreeroots[d] != None:
-                degreeroots[d].next = degreeroots[d].previous = degreeroots[d];
-                self._insertnode(degreeroots[d]);
-                if (d > newmaxdegree):
-                    newmaxdegree = d;
-
-        maxdegree = newmaxdegree;
-
-
-    def decreasekey(self, node, newkey):
-        if newkey > node.key:
-            #import code
-            #code.interact(local=locals())
-            raise AssertionError("Cannot decrease a key to a greater value");
-        elif newkey == node.key:
-            return;
-
-        node.key = newkey;
-
-        parent = node.parent;
-
-        if parent == None:
-            if newkey < self.minnode.key:
-                self.minnode = node;
-            return;
-        elif parent.key <= newkey:
-            return;
-
-        while True:
-            parent.removechild(node);
-            self._insertnode(node);
-
-            if parent.parent == None:
-                break;
-            elif parent.mark == False:
-                parent.mark;
-                break;
-            else:
-                node = parent;
:
```

```
-t0 = time.time()
-[result, stats] = solver(maze);
-t1 = time.time()

-total = t1-t0

-# Print solve stats
-print ("Nodes explored: ", stats[0]);
-if (stats[2]):
-        print ("Path found, length", stats[1]);
-else:
-        print ("No Path Found");
-print ("Time elapsed: ", total, "s\n");

-"""
-Create and save the output image.
-This is simple drawing code that travels between each node in turn, drawing either
-a horizontal or vertical line as required. Line colour is roughly interpolated between
-blue and red depending on how far down the path this section is. Dependency on numpy
-should be easy to remove at some point.
-"""

-print ("Saving Image");
-mazeimage = np.array(im)
-imout = np.array(mazeimage);
-imout[imout==1] = 255;
-out = imout[:,:,np.newaxis];

-out = np.repeat(out, 3, axis=2);

-resultpath = [n.Position for n in result];

-length = len(resultpath);

-px = [0, 0, 0];
-for i in range(0, length - 1):
-        a = resultpath[i];
-        b = resultpath[i+1];

-        # Blue - red
-        px[0] = int((i / length) * 255);
-        px[2] = 255 - px[0];

-        if a[0] == b[0]:
-            # Ys equal - horizontal line
-            for x in range(min(a[1],b[1]), max(a[1],b[1])):
-                out[a[0],x,:] = px
-        elif a[1] == b[1]:
-            # Xs equal - vertical line
-            for y in range(min(a[0],b[0]), max(a[0],b[0]) + 1):
-                out[y,a[1],:] = px

-img = Image.fromarray(out);
-img.save(args.output_file)
(END)
```

$ git checkout -b branch_name Switch working directory to the specified branch. With
-b: Git will create the specified branch if it does not exist

Add a python file in file and add in git(in new branch)

Git branch (show list of branch)

$ git add file name

And commit it

And git log (history commit)

```
C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65\mazesolving>git branch
  master
* zeynabyousefi
```

```
C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65>cd mazesolving

C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65\mazesolving>git checkout -b zeynabyousefi
Switched to a new branch 'zeynabyousefi'

C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65\mazesolving>git add .
warning: LF will be replaced by CRLF in cls.
The file will have its original line endings in your working directory

C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65\mazesolving>git add hw4fainally_zeynabyousefi-maktab65.py

C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65\mazesolving>git commit -m"add hw4"
[zeynabyousefi 07fadf5] add hw4
 3 files changed, 365 insertions(+)
 create mode 100644 cls
 create mode 100644 git
 create mode 100644 hw4fainally_zeynabyousefi-maktab65.py

C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65\mazesolving>git log
commit 07fadf50ab34454b31147198c8d95648199a3ef3 (HEAD -> zeynabyousefi)
Author: zeynab <zeynabyousefi1380@gmail.com>
Date:   Wed Nov 17 15:08:41 2021 +0330

    add hw4
```

Git push in repository

https://github.com/zeynabyousefi/zeynab_yousefi_Hw6_maktab65

```
commit 6cba31af221ab18154fda9ff1dd99c7f02c2208a
Author: mikepound <mppound@gmail.com>

C:\Users\ASUS\Desktop\zeynab-yousefi-hw6-maktab65\mazesolving>git push https://github.com/zeynabyousefi/zeynab_yousefi_H
w6_maktab65.git
Enumerating objects: 133, done.
Counting objects: 100% (133/133), done.
Delta compression using up to 8 threads
Compressing objects: 100% (71/71), done.
Writing objects:  39% (52/133)
```