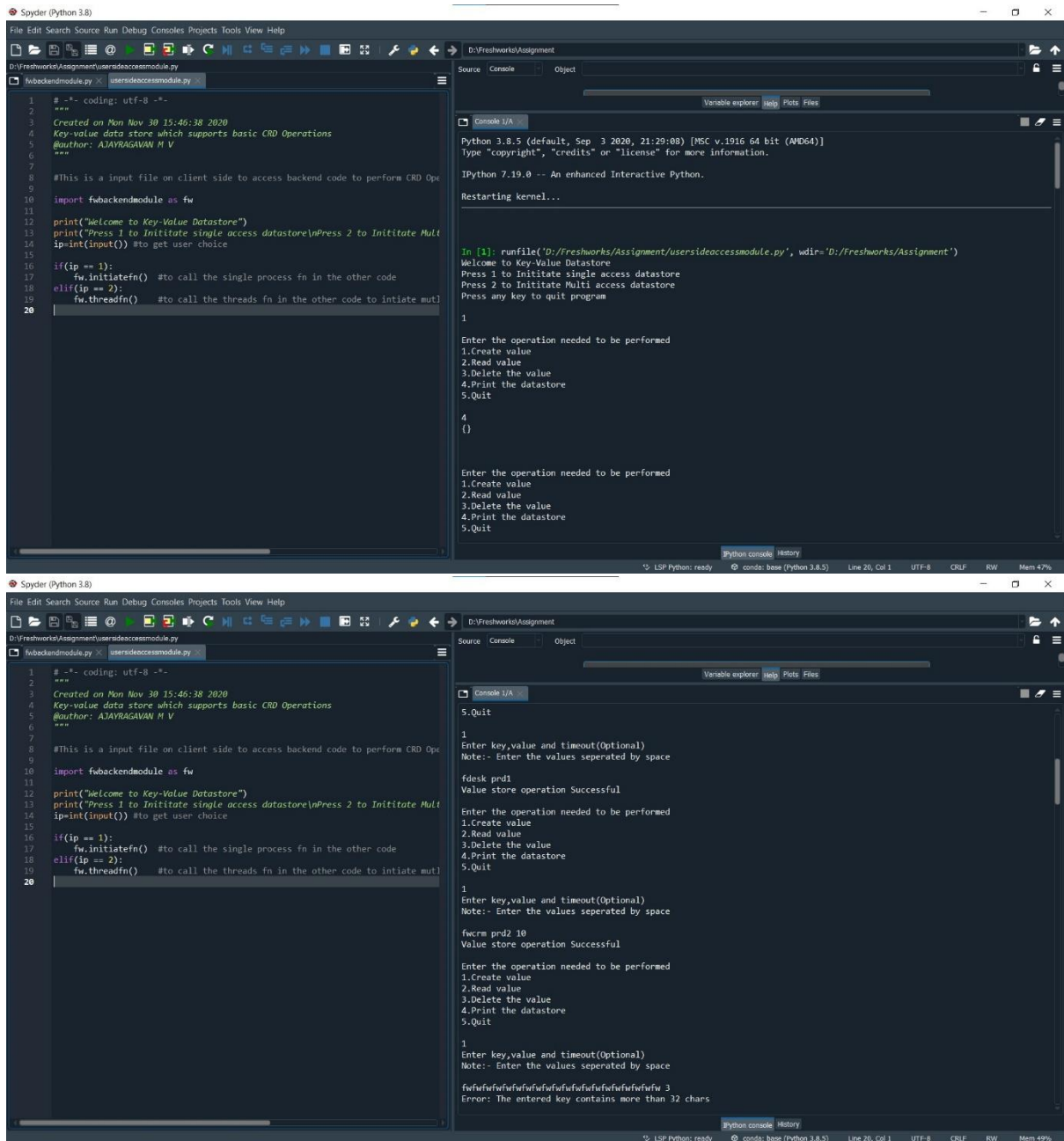


Single Process operation



```

1  # -*- coding: utf-8 -*-
2  """
3  Created on Mon Nov 30 15:46:38 2020
4  Key-value data store which supports basic CRUD Operations
5  @author: AJAYRAGAVAN M V
6  """
7
8  #This is a input file on client side to access backend code to perform CRUD Ops
9
10 import fubackendmodule as fw
11
12 print("Welcome to Key-Value Datastore")
13 print("Press 1 to Initiate single access datastore\nPress 2 to Initiate Multi
14 ip=int(input()) #to get user choice
15
16 if(ip == 1):
17     fw.initiatefn() #to call the single process fn in the other code
18 elif(ip == 2):
19     fw.threadfn() #to call the threads fn in the other code to initiate mult
20

```

Console I/O

```

Enter the operation needed to be performed
1.Create value
2.Read value
3.Delete the value
4.Print the datastore
5.Quit
1
Enter key,value and timeout(Optional)
Note:- Enter the values seperated by space
fw@success 4
Error: Keyname Invalid. Alphanumerical values not entertained in keys. Try again
Enter the operation needed to be performed
1.Create value
2.Read value
3.Delete the value
4.Print the datastore
5.Quit
2
Enter key to read
fdesk
["prd1", 0]
Enter the operation needed to be performed
1.Create value
2.Read value
3.Delete the value
4.Print the datastore
5.Quit
2
Enter key to read

```

```

1  # -*- coding: utf-8 -*-
2  """
3  Created on Mon Nov 30 15:46:38 2020
4  Key-value data store which supports basic CRUD Operations
5  @author: AJAYRAGAVAN M V
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12 print("Welcome to Key-Value Datastore")
13 print("Press 1 to Initiate single access datastore\nPress 2 to Initiate Multi
14 ip=int(input()) #to get user choice
15
16 if(ip == 1):
17     fw.initiatefn() #to call the single process fn in the other code
18 elif(ip == 2):
19     fw.threadfn() #to call the threads fn in the other code to initiate mult
20

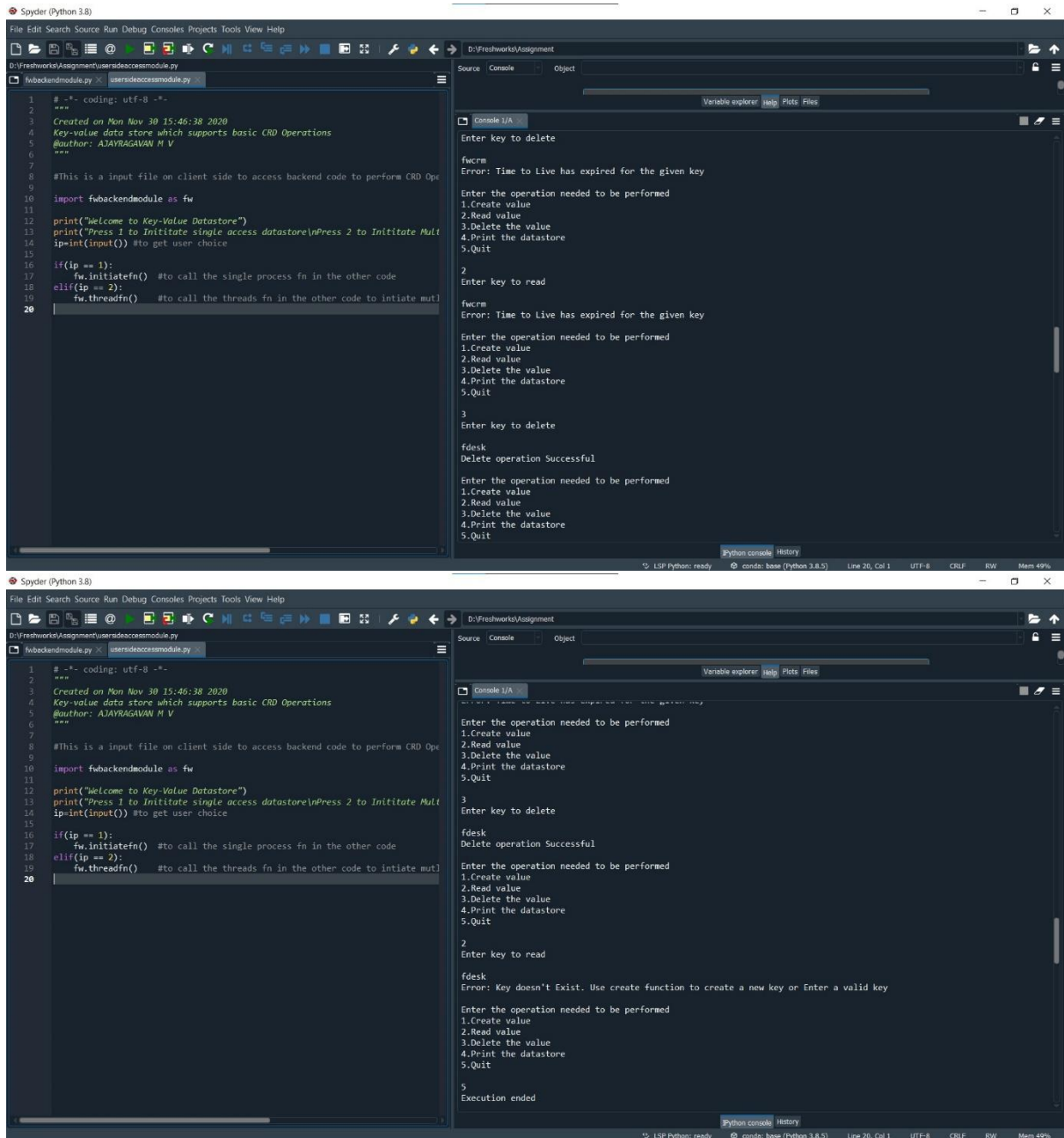
```

Console I/O

```

Enter key to read
fwcm
Error: Time to Live has expired for the given key
Enter the operation needed to be performed
1.Create value
2.Read value
3.Delete the value
4.Print the datastore
5.Quit
1
Enter key,value and timeout(Optional)
Note:- Enter the values seperated by space
fdesk 5 200
Error: The entered key exists already
Enter the operation needed to be performed
1.Create value
2.Read value
3.Delete the value
4.Print the datastore
5.Quit
4
{'fdesk': ['prd1', 0], 'fwcm': ['prd2', 1606752666.5269604]}
Enter the operation needed to be performed
1.Create value
2.Read value
3.Delete the value
4.Print the datastore
5.Quit

```



Multi thread op – Single thread execution at a time

The first screenshot shows the Spyder Python IDE with the file `usersideaccessmodule.py` open. The code defines a `fw` object and a `fw.threadfn()` function. The console output shows the program's welcome message and instructions for using the single access datastore.

```
1 # -*- coding: utf-8 -*-
2 """
3 Created on Mon Nov 30 15:46:38 2020
4 Key-value data store which supports basic CRUD Operations
5 @author: AJAYRAGAVAN M V
6 """
7
8 #This is a input file on client side to access backend code to perform CRUD Ope
9
10 import fwbackendmodule as fw
11
12 print("Welcome to Key-Value Datastore")
13 print("Press 1 to Initiate single access datastore\nPress 2 to Initiate Multi
14 ip=int(input()) #to get user choice
15
16 if(ip == 1):
17     fw.initiatefn() #to call the single process fn in the other code
18 elif(ip == 2):
19     fw.threadfn() #to call the threads fn in the other code to initiate mult
20
```

The second screenshot shows the same code, but the console output now includes the results of a `fdesk` operation, indicating that a single thread has completed its execution.

```
1
2
3 Enter the operation needed to be performed
4 1.Create value
5 2.Read value
6 3.Delete the value
7 4.Print the datastore
8 5.Quit
9
10 Enter the operation needed to be performed
11 1.Create value
12 2.Read value
13 3.Delete the value
14 4.Print the datastore
15 5.Quit
16
17 Enter key,value and timeout(Optional)
18 Note:- Enter the values separated by space
19 fdesk 1 25
20 Value store operation Successful
21
22 Enter the operation needed to be performed
23 1.Create value
24 2.Read value
25 3.Delete the value
26 4.Print the datastore
27 5.Quit
28
29 4
30 {'fdesk': ['1', 1606753178.1297864]}
31
32 Enter the operation needed to be performed
33 1.Create value
34 2.Read value
35 3.Delete the value
36 4.Print the datastore
37 5.Quit
38
39 2
40 Enter key to read
41 fdesk
42 ['1', 1606753178.1297864]
43
44 Enter the operation needed to be performed
45 1.Create value
46 2.Read value
47 3.Delete the value
48 4.Print the datastore
49 5.Quit
50
51 5
52 Execution ended
53 Current Thread Process exited
```

```
1 # -*- coding: utf-8 -*-
2 """
3 Created on Mon Nov 30 15:46:38 2020
4 Key-value data store which supports basic CRUD Operations
5 @author: AJAYRAGAVAN M V
6 """
7
8 #This is a input file on client side to access backend code to perform CRUD Ops
9
10 import fwbackendmodule as fw
11
12 print("Welcome to Key-Value Datastore")
13 print("Press 1 to Initiate single access datastore\nPress 2 to Initiate Multi")
14 ip=int(input()) #to get user choice
15
16 if(ip == 1):
17     fw.initiatefn() #to call the single process fn in the other code
18 elif(ip == 2):
19     fw.threadfn() #to call the threads fn in the other code to initiate mutl
20
```

Console I/A

Entering New Thread Process

Enter the operation needed to be performed

- 1.Create value
- 2.Read value
- 3.Delete the value
- 4.Print the datastore
- 5.Quit

4

{'fdesk': ['1', 1606753178.1297064]}

Enter the operation needed to be performed

- 1.Create value
- 2.Read value
- 3.Delete the value
- 4.Print the datastore
- 5.Quit

2

Enter key to read

fdesk

["1", 1606753178.1297064]

Enter the operation needed to be performed

- 1.Create value
- 2.Read value
- 3.Delete the value
- 4.Print the datastore
- 5.Quit

1

Enter key,value and timeout(Optional)

```
1 # -*- coding: utf-8 -*-
2 """
3 Created on Mon Nov 30 15:46:38 2020
4 Key-value data store which supports basic CRUD Operations
5 @author: AJAYRAGAVAN M V
6 """
7
8 #This is a input file on client side to access backend code to perform CRUD Ops
9
10 import fwbackendmodule as fw
11
12 print("Welcome to Key-Value Datastore")
13 print("Press 1 to Initiate single access datastore\nPress 2 to Initiate Multi")
14 ip=int(input()) #to get user choice
15
16 if(ip == 1):
17     fw.initiatefn() #to call the single process fn in the other code
18 elif(ip == 2):
19     fw.threadfn() #to call the threads fn in the other code to initiate mutl
20
```

Console I/A

Enter key,value and timeout(Optional)

Note:- Enter the values seperated by space

fwcm 4

Value store operation Successful

Enter the operation needed to be performed

- 1.Create value
- 2.Read value
- 3.Delete the value
- 4.Print the datastore
- 5.Quit

3

Enter key to delete

fdesk

Error: Time to Live has expired for the given key

Enter the operation needed to be performed

- 1.Create value
- 2.Read value
- 3.Delete the value
- 4.Print the datastore
- 5.Quit

2

Enter key to read

fwcm

["4", 0]

Enter the operation needed to be performed

- 1.Create value
- 2.Read value
- 3.Delete the value
- 4.Print the datastore

The image shows the Spyder Python IDE interface. The left pane displays a Python script named `usersideaccessmodule.py` with the following content:

```
1 # -*- coding: utf-8 -*-
2 """
3 Created on Mon Nov 30 15:46:38 2020
4 Key-value data store which supports basic CRUD Operations
5 @author: AJAYRAGAVAN M V
6 """
7
8 #This is a input file on client side to access backend code to perform CRUD Ops
9
10 import fubackendmodule as fw
11
12 print("Welcome to Key-Value Datastore")
13 print("Press 1 to Initiate single access datastore\nPress 2 to Initiate Multi")
14 ip=int(input()) #to get user choice
15
16 if(ip == 1):
17     fw.initiatefn() #to call the single process fn in the other code
18 elif(ip == 2):
19     fw.threadfn() #to call the threads fn in the other code to initiate mutl
20
```

The right pane shows the console output, which includes a menu of operations and the execution of the script:

```
1.Create value
2.Read value
3.Delete the value
4.Print the datastore
5.Quit

2
Enter key to read

fwcrn
["4", 0]

Enter the operation needed to be performed
1.Create value
2.Read value
3.Delete the value
4.Print the datastore
5.Quit

4
{'fdesk': ['1', 1606753178.1297864], 'fwcrn': ['4', 0]}

Enter the operation needed to be performed
1.Create value
2.Read value
3.Delete the value
4.Print the datastore
5.Quit

5
Execution ended
Current Thread Process exited

In [3]: |
```

The status bar at the bottom indicates the environment is 'base (Python 3.8.5)' and the file is 'Line 3, Col 13'.