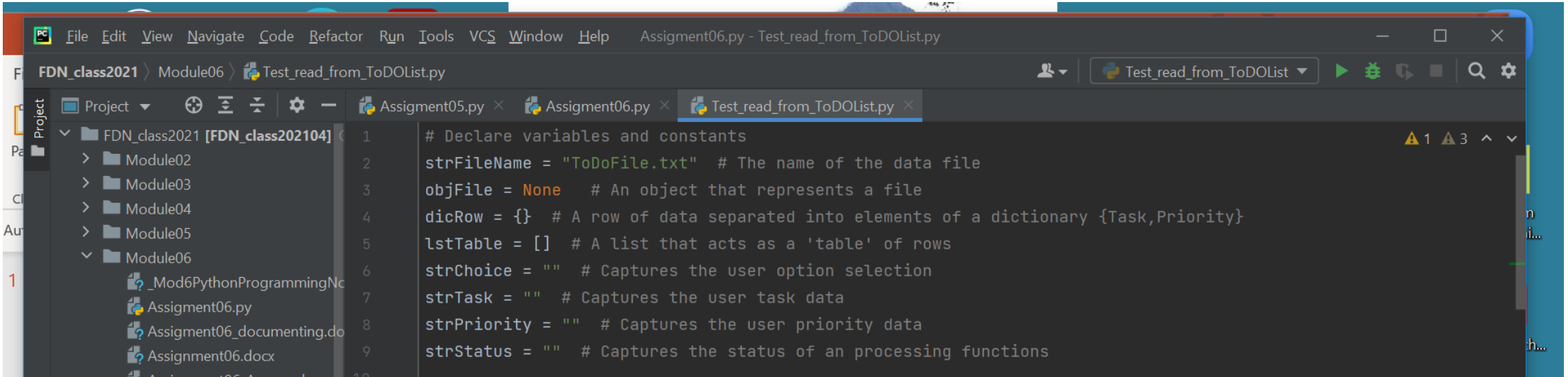


Declare variables



The screenshot shows an IDE window with the file `Test_read_from_ToDOList.py` open. The left sidebar displays a project tree for `FDN_class2021`, with `Module06` expanded. The main editor area shows the following Python code:

```
1 # Declare variables and constants
2 strFileName = "ToDoFile.txt" # The name of the data file
3 objFile = None # An object that represents a file
4 dicRow = {} # A row of data separated into elements of a dictionary {Task,Priority}
5 lstTable = [] # A list that acts as a 'table' of rows
6 strChoice = "" # Captures the user option selection
7 strTask = "" # Captures the user task data
8 strPriority = "" # Captures the user priority data
9 strStatus = "" # Captures the status of an processing functions
```

The IDE interface includes a menu bar (File, Edit, View, Navigate, Code, Refactor, Run, Tools, VCS, Window, Help) and a toolbar with icons for running, debugging, and searching. The status bar at the bottom right indicates 1 warning and 3 errors.

Test the function "Processor.read_data_from_file(strFileName, lstTable) # read file data

The screenshot displays the PyCharm IDE interface. The main editor window shows the file `Test_read_from_ToDOList.py` with the following Python code:

```
20 :param list_of_rows: (list) you want filled with file data:
21 :return: (list) of dictionary rows
22 """
23
24 list_of_rows.clear() # clear current data
25 file = open(file_name, "r")
26 for line in file:
27     task, priority = line.split(",")
28     row = {"Task": task.strip(), "Priority": priority.strip()}
29     list_of_rows.append(row)
30 file.close()
31 return list_of_rows, 'Success'
32
33 # Step 1 - When the program starts, Load data from ToDoFile.txt.
34 lstTable, strStatus = Processor.read_data_from_file(strFileName, lstTable) # read file data
35 print(lstTable)
36 print(strStatus)
```

The bottom panel shows the Debug Console with the following output:

```
C:\Users\tpeng\Python39\python.exe "C:\Program Files\JetBrains\PyCharm Community Edition 2021.1\plugins\python-ce\helpers\pydev\pydevd.py" --m
Connected to pydev debugger (build 211.6693.115)
[{'Task': 'Grant writing', 'Priority': 'high'}, {'Task': 'Manuscript', 'Priority': 'high'}]
Success
```

The status bar at the bottom indicates the file encoding is UTF-8, 4 spaces, and Python 3.9.

Test several functions in class IO

The screenshot displays the PyCharm IDE interface. The top toolbar includes menus for File, Edit, View, Navigate, Code, Refactor, Run, Tools, VCS, Window, and Help. The current file is 'Assignment06.py - Test_class_IO_1.py'. The left sidebar shows the project structure with 'Module06' selected, containing files like '_Mod6PythonProgrammingNc', 'Assignment06.py', 'Assignment06_documenting.do', and 'Assianment06.docx'. The main editor window shows the following Python code:

```
74 lstTable, strStatus = Processor.read_data_from_file(strFileName, lstTable) # read file data
75 IO.print_current_Tasks_in_list(lstTable) # Show current data in the list/table
76 print(strStatus)
77 IO.print_menu_Tasks() # Shows menu
78 strChoice = IO.input_menu_choice() # Get menu option
```

The bottom panel shows the 'Run' output for 'Test_class_IO_1'. The command executed is: `C:\Users\tpeng\Python39\python.exe C:/Users/tpeng/PycharmProjects/FDN_class2021/Module06/Test_class_IO_1.py`. The output is as follows:

```
***** The current Tasks ToDo are: *****
Grant writing (high)
Manuscript (high)
*****

Success

Menu of Options
1) Add a new Task
2) Remove an existing Task
3) Save Data to File
4) Reload Data from File
5) Exit Program

Which option would you like to perform? [1 to 5] -
```

The bottom status bar indicates the current interpreter is Python 3.9 [C:\Users\tpeng\Python39\python.exe]. The Windows taskbar at the bottom shows the time as 11:55 AM on 5/12/2021.

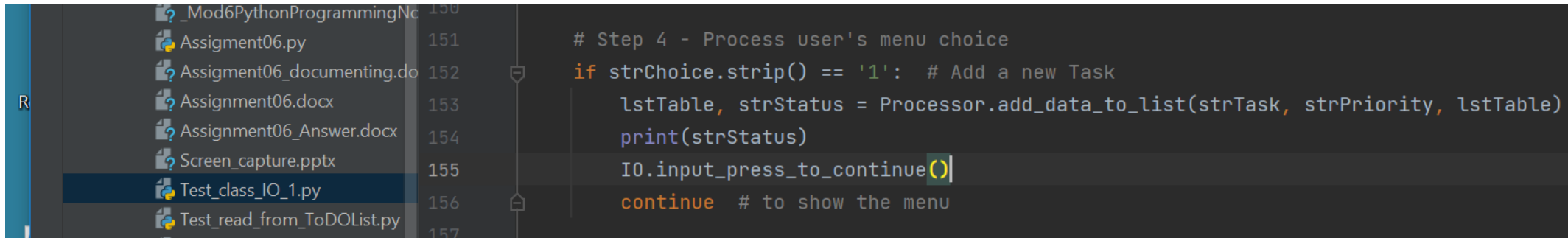
Test several functions in class Processor and IO to go through option 1-5 in the menu

The screenshot displays a Python IDE with the following components:

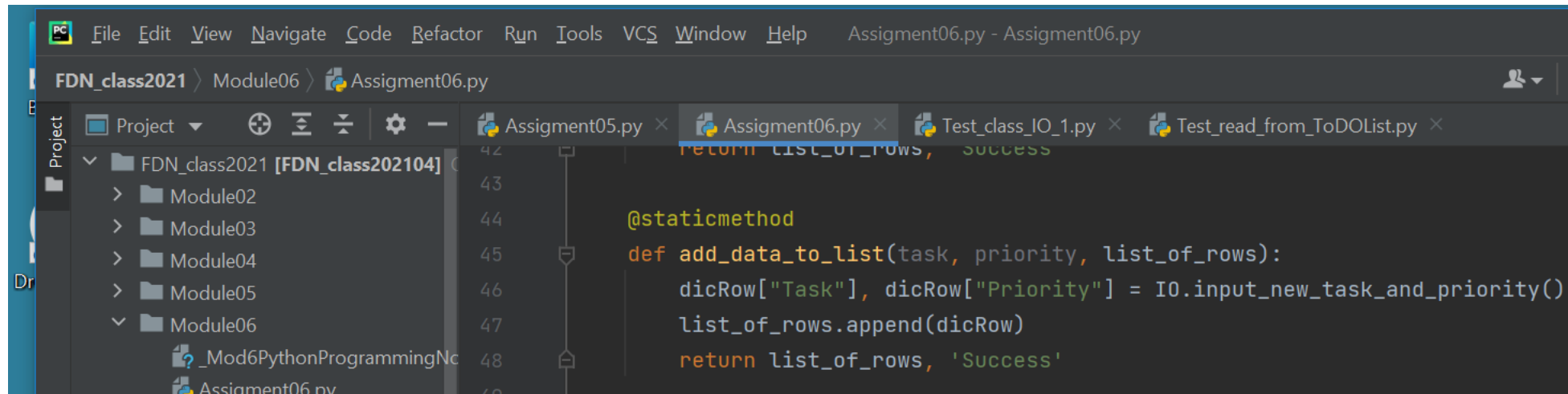
- Project Explorer (Left):** Shows the project structure for 'FDN_class2021'. The 'Module06' folder is expanded, showing files like 'Assignment06.py', 'Assignment06_documenting.docx', 'Assignment06.docx', 'Assignment06_Answer.docx', 'Screen_capture.pptx', 'Test_class_IO_1.py', 'Test_read_from_ToDOList.py', and 'ToDoFile.txt'.
- Code Editor (Center):** Displays the code for 'Assignment06.py'. The code is a while loop that prompts the user to choose an option from a menu. The options are: 1. Add a new Task, 2. Remove an existing Task, 3. Save Data to File, 4. Reload Data from File, and 5. Exit. The script uses a 'Processor' class for data manipulation and an 'IO' class for user input/output.
- Run/Debug Console (Bottom):** Shows the output of the program. The output is: 'Warning: Unsaved Data Will Be Lost!' followed by 'Are you sure you want to reload data from file? (y/n) - '.

```
152 if strChoice.strip() == '1': # Add a new Task
153     Processor.add_data_to_list(strTask, strPriority, lstTable)
154     IO.input_press_to_continue()
155     continue # to show the menu
156
157 elif strChoice == '2': # Remove an existing Task
158     Processor.remove_data_from_list(strTask, lstTable)
159     IO.input_press_to_continue()
160     continue # to show the menu
161
162 elif strChoice == '3': # Save Data to File
163     strChoice = IO.input_yes_no_choice("Save this data to file? (y/n) - ")
164     if strChoice.lower() == "y":
165         Processor.write_data_to_file(strFileName, lstTable)
166         IO.input_press_to_continue()
167     else:
168         IO.input_press_to_continue("Save Cancelled!")
169     continue # to show the menu
170
171 elif strChoice == '4': # Reload Data from File
172     print("Warning: Unsaved Data Will Be Lost!")
173     strChoice = IO.input_yes_no_choice("Are you sure you want to reload data from file? (y/n) - ")
174
175 while (True)
```

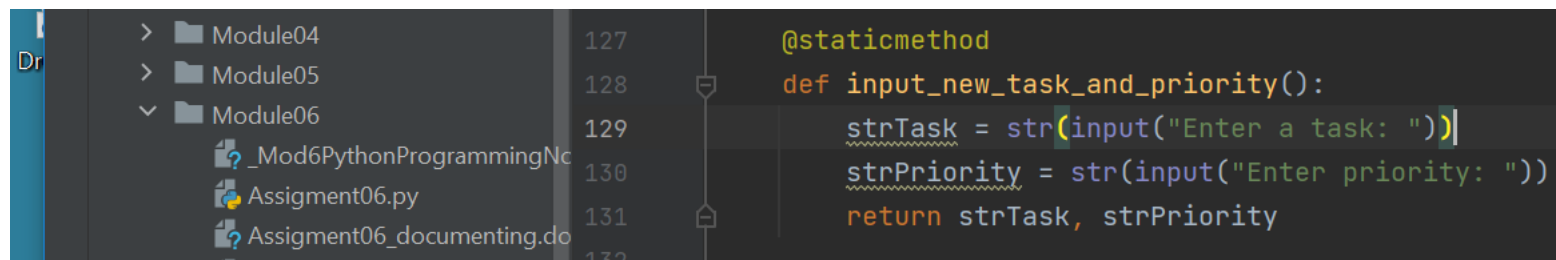
Test the functions of adding data to the lstTable (Option 1) in the menu



```
# Step 4 - Process user's menu choice
if strChoice.strip() == '1': # Add a new Task
    lstTable, strStatus = Processor.add_data_to_list(strTask, strPriority, lstTable)
    print(strStatus)
    IO.input_press_to_continue()
    continue # to show the menu
```

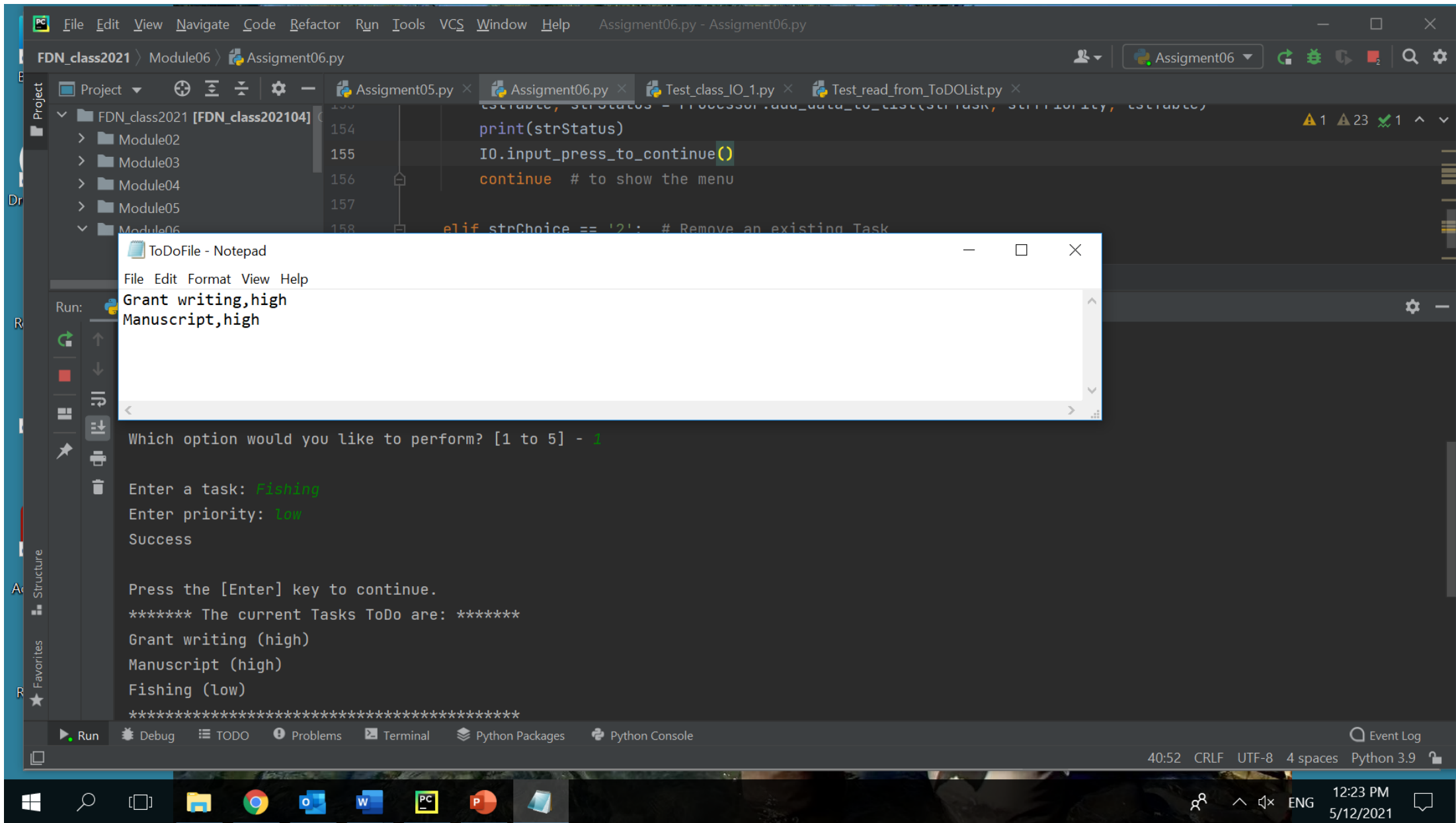


```
@staticmethod
def add_data_to_list(task, priority, list_of_rows):
    dicRow["Task"], dicRow["Priority"] = IO.input_new_task_and_priority()
    list_of_rows.append(dicRow)
    return list_of_rows, 'Success'
```

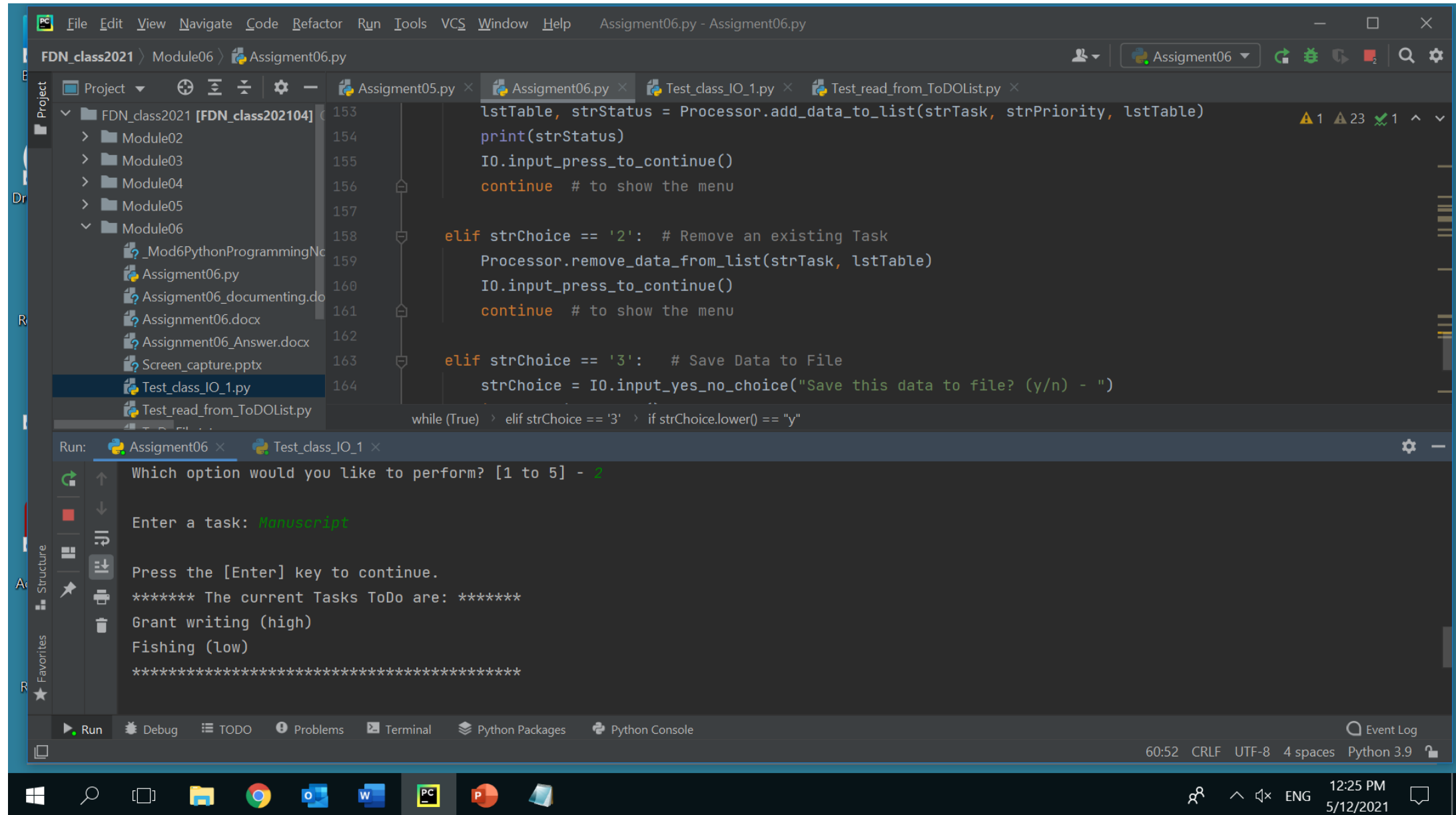


```
@staticmethod
def input_new_task_and_priority():
    strTask = str(input("Enter a task: "))
    strPriority = str(input("Enter priority: "))
    return strTask, strPriority
```

The functions of adding data to the lstTable (Option 1) in the menu WORKED!!!!



The functions of removing data from the lstTable (Option 2) in the menu WORKED!!!!



The screenshot displays a Python IDE with the following components:

- Project Explorer:** Shows a project named 'FDN_class2021' with a sub-module 'Module06'. The file 'Test_class_IO_1.py' is selected.
- Code Editor:** Contains the Python code for 'Assignment06.py'. The code includes a menu-driven interface for managing a list of tasks. The 'Remove' option (2) is highlighted in the code, showing the function call `Processor.remove_data_from_list(strTask, lstTable)`.
- Run Console:** Shows the output of the program. The user has selected option 2, entered the task 'Manuscript', and the program has displayed the current tasks: 'Grant writing (high)' and 'Fishing (low)'.

```
153 lstTable, strStatus = Processor.add_data_to_list(strTask, strPriority, lstTable)
154 print(strStatus)
155 IO.input_press_to_continue()
156 continue # to show the menu
157
158 elif strChoice == '2': # Remove an existing Task
159     Processor.remove_data_from_list(strTask, lstTable)
160     IO.input_press_to_continue()
161     continue # to show the menu
162
163 elif strChoice == '3': # Save Data to File
164     strChoice = IO.input_yes_no_choice("Save this data to file? (y/n) - ")
    while (True) > elif strChoice == '3' > if strChoice.lower() == "y"
```

Run: Assignment06 x Test_class_IO_1 x

Which option would you like to perform? [1 to 5] - 2

Enter a task: Manuscript

Press the [Enter] key to continue.

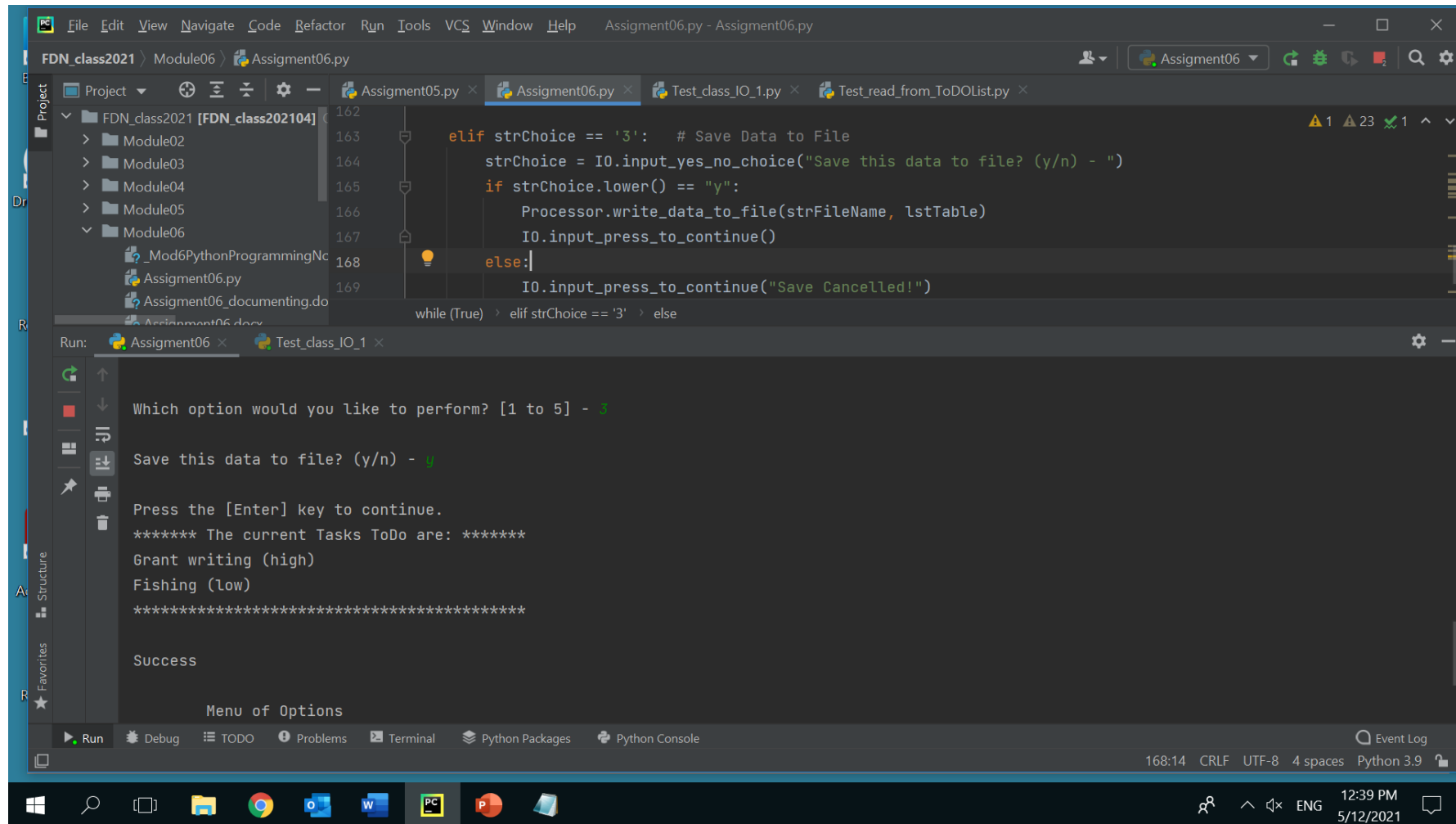
***** The current Tasks ToDo are: *****

Grant writing (high)

Fishing (low)

60:52 CRLF UTF-8 4 spaces Python 3.9

The functions of saving data from the lstTable to the file (ToDoList) (Option 3) in the menu WORKED!!!!

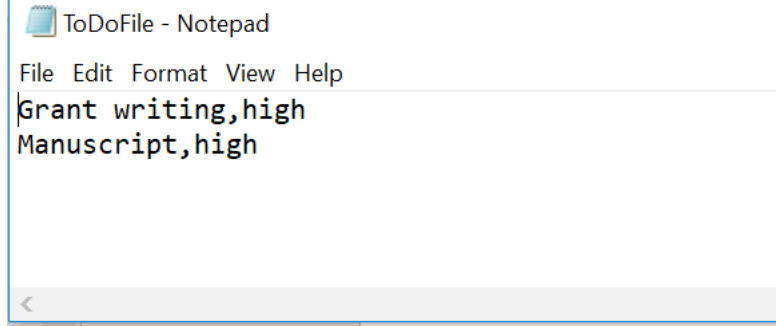


The screenshot shows an IDE with the following components:

- Project Explorer:** Shows a project named 'FDN_class2021' with subfolders 'Module02' through 'Module06'. The file 'Assignment06.py' is selected.
- Code Editor:** Displays the code for 'Assignment06.py'. The relevant code is:

```
162  
163 elif strChoice == '3': # Save Data to File  
164     strChoice = IO.input_yes_no_choice("Save this data to file? (y/n) - ")  
165     if strChoice.lower() == "y":  
166         Processor.write_data_to_file(strFileName, lstTable)  
167         IO.input_press_to_continue()  
168     else:  
169         IO.input_press_to_continue("Save Cancelled!")  
while (True) > elif strChoice == '3' > else
```
- Run Console:** Shows the program's execution. The user selected option 3, and the program successfully saved the data to the file. The output is:

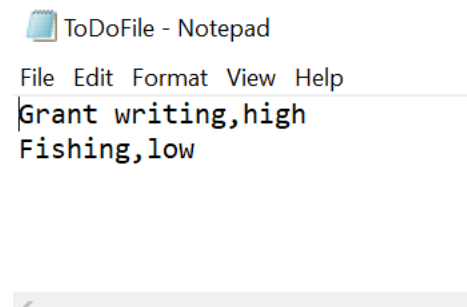
```
Which option would you like to perform? [1 to 5] - 3  
Save this data to file? (y/n) - y  
Press the [Enter] key to continue.  
***** The current Tasks ToDo are: *****  
Grant writing (high)  
Fishing (low)  
*****  
Success  
Menu of Options
```



ToDoFile - Notepad

File Edit Format View Help

Grant writing,high
Manuscript,high



ToDoFile - Notepad

File Edit Format View Help

Grant writing,high
Fishing,low

The functions of reloading the data from the file (ToDOList) to the lstTable (Option 4) in the menu **WORKED!!!!**

The screenshot displays an IDE window for a project named 'FDN_class2021'. The file explorer on the left shows a directory structure with 'Module06' containing 'Assignment06.py'. The main editor shows the code for 'Assignment06.py' with the following relevant lines:

```
171
172 elif strChoice == '4': # Reload Data from File
173     print("Warning: Unsaved Data Will Be Lost!")
174     strChoice = IO.input_yes_no_choice("Are you sure you want to reload data from file? (y/n) - ")
175     if strChoice.lower() == 'y':
176         Processor.read_data_from_file(strFileName, lstTable)
177     else:
178         IO.input_press_to_continue("File Reload Cancelled!")
179     continue # to show the menu
```

The 'Run' window at the bottom shows the execution output for 'Assignment06.py':

```
Which option would you like to perform? [1 to 5] - 4
Warning: Unsaved Data Will Be Lost!
Are you sure you want to reload data from file? (y/n) - y
***** The current Tasks ToDo are: *****
Grant writing (high)
Fishing (low)
*****
Success
```

The status bar at the bottom indicates the file encoding is UTF-8, 4 spaces, and Python 3.9. The system clock shows 12:48 PM on 5/12/2021.