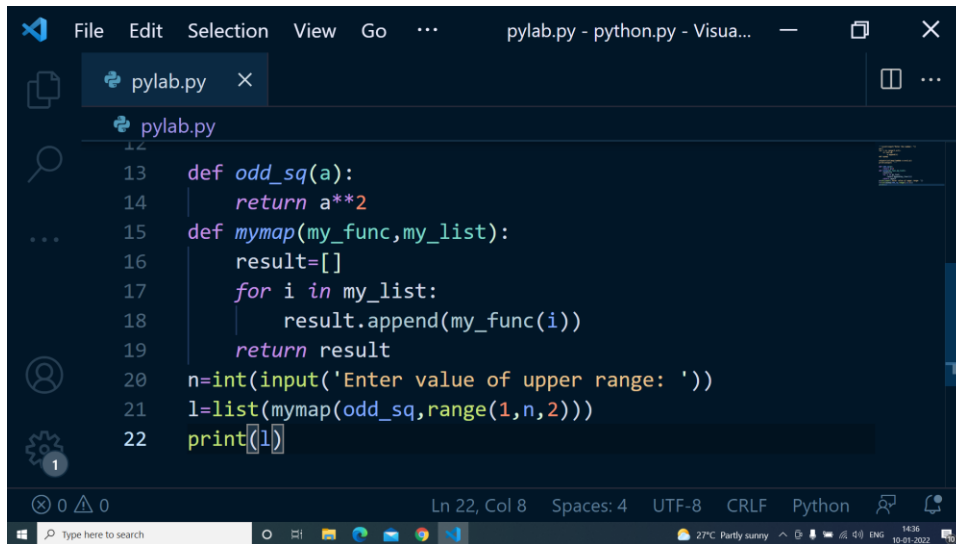


1) Write a function mymap which takes a callback and an iterable, creates a list, applies a callback to each element of the iterable and puts the result into list and returns the list. Should mimic map.

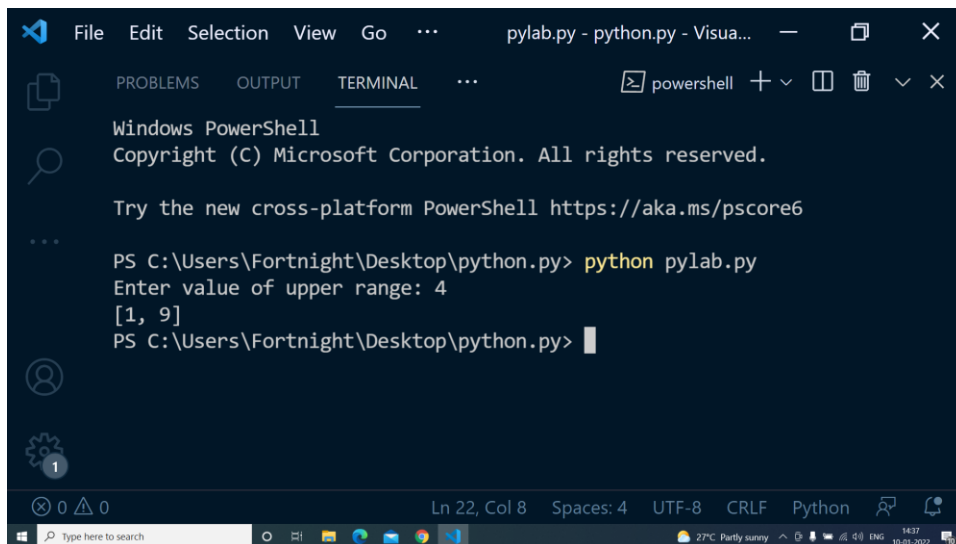
(a) Create a list of square of odd numbers from 1 to n.

#Program



```
13 def odd_sq(a):
14     return a**2
15 def mymap(my_func, my_list):
16     result=[]
17     for i in my_list:
18         result.append(my_func(i))
19     return result
20 n=int(input('Enter value of upper range: '))
21 l=list(mymap(odd_sq,range(1,n,2)))
22 print(l)
```

#Output



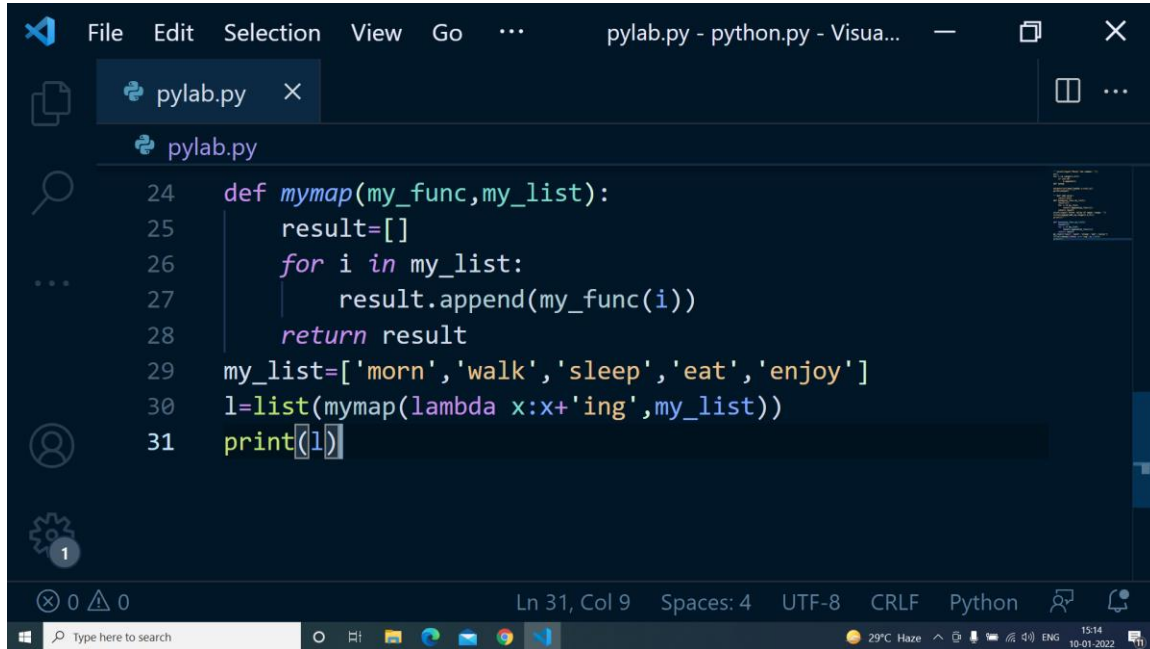
```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Fortnight\Desktop\python.py> python pylab.py
Enter value of upper range: 4
[1, 9]
PS C:\Users\Fortnight\Desktop\python.py>
```

(b) Given a list of words, return a list with 'ing' appended to it.

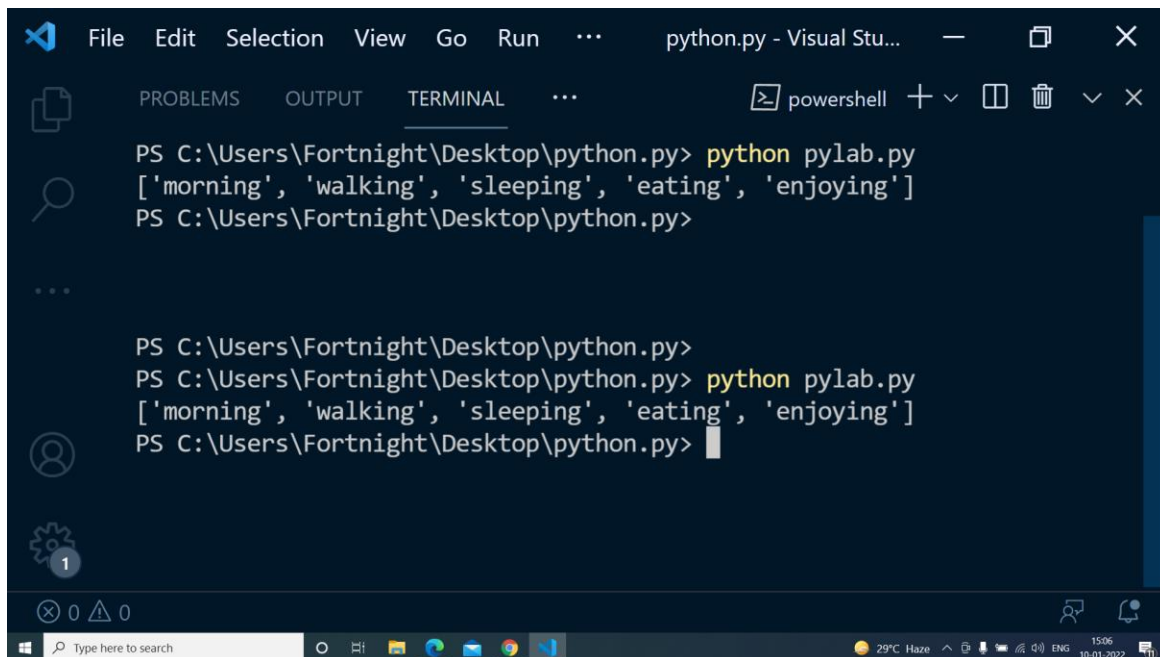
#Program



The screenshot shows a Visual Studio Code editor window with the file 'pylab.py' open. The code defines a function 'mymap' that takes a function 'my_func' and a list 'my_list' as arguments. It creates an empty list 'result', iterates over 'my_list' using a 'for' loop, and appends the result of 'my_func(i)' to 'result'. Finally, it returns 'result'. Below the function definition, a list 'my_list' is initialized with the words 'morn', 'walk', 'sleep', 'eat', and 'enjoy'. A lambda function is used to call 'mymap' with 'x+'ing' as the function argument, and the result is stored in 'l'. The script ends with a 'print(l)' statement.

```
24 def mymap(my_func,my_list):
25     result=[]
26     for i in my_list:
27         result.append(my_func(i))
28     return result
29 my_list=['morn','walk','sleep','eat','enjoy']
30 l=list(mymap(lambda x:x+'ing',my_list))
31 print(l)
```

#Output

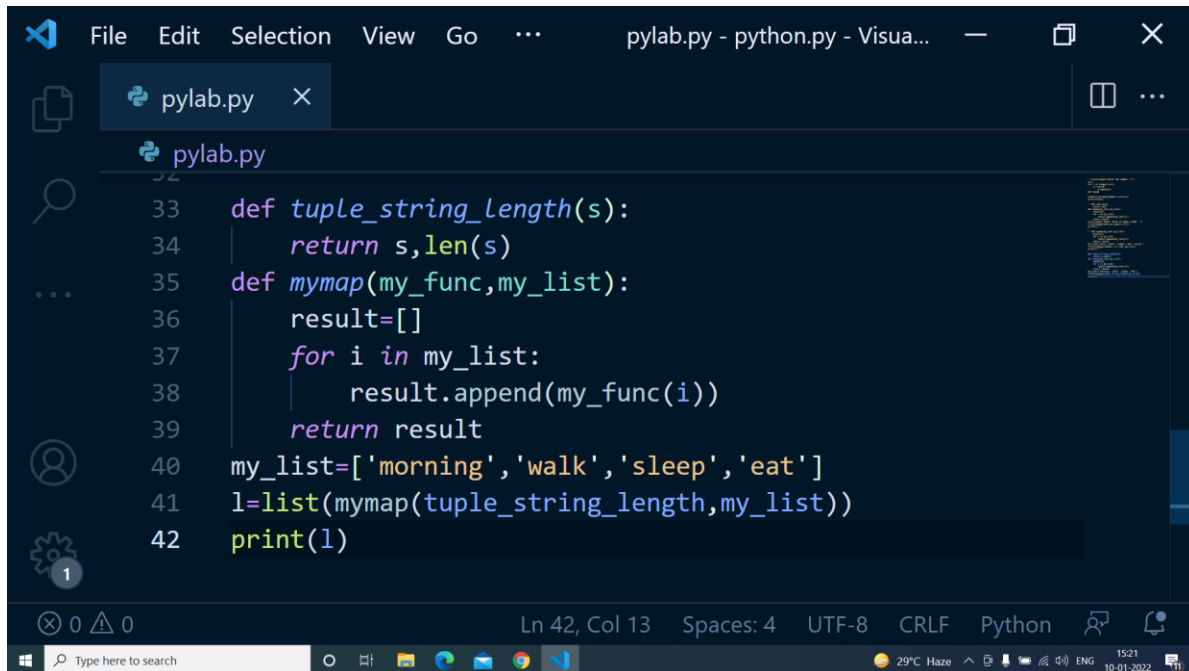


The screenshot shows a Visual Studio Code terminal window with the command prompt 'PS C:\Users\Fortnight\Desktop\python.py>'. The user has entered 'python pylab.py' and the output is displayed as a list: ['morning', 'walking', 'sleeping', 'eating', 'enjoying']. The terminal window also shows the command prompt again, indicating the script has been executed successfully.

```
PS C:\Users\Fortnight\Desktop\python.py> python pylab.py
['morning', 'walking', 'sleeping', 'eating', 'enjoying']
PS C:\Users\Fortnight\Desktop\python.py>
```

(c) Given list of words, return a list of tuples having the word and its length.

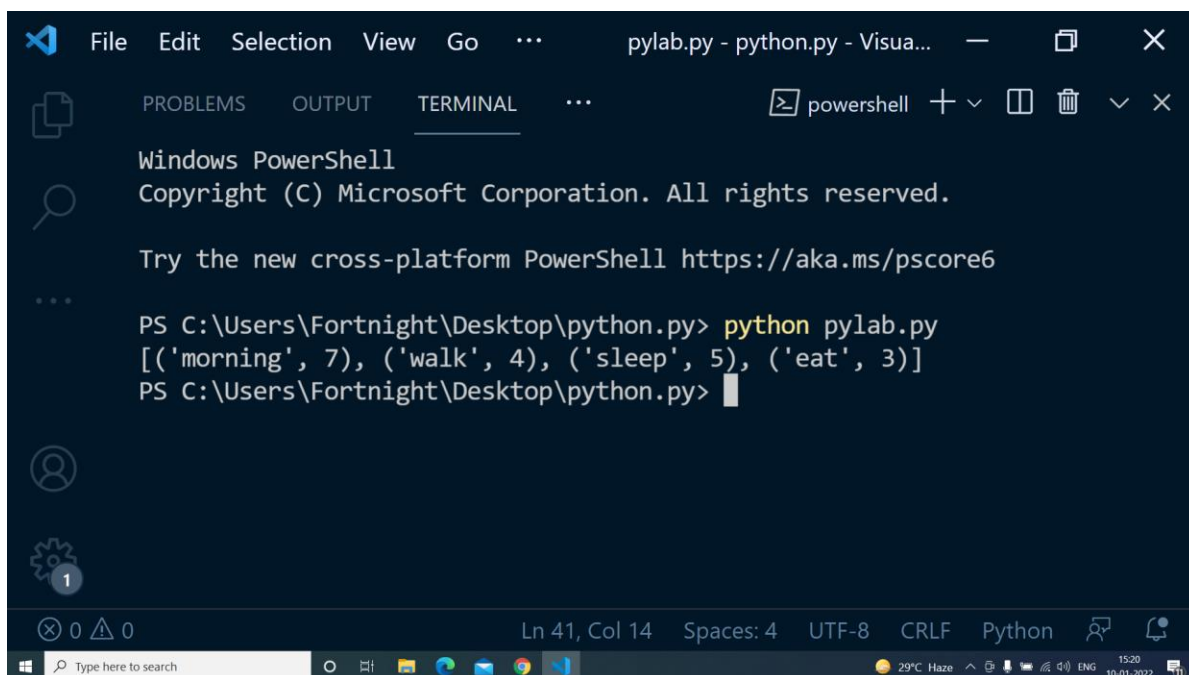
#Program



The screenshot shows the Visual Studio Code editor with a file named 'pylab.py' open. The code defines a function 'tuple_string_length' that returns a tuple of the string and its length. It then uses 'mymap' to apply this function to a list of words: ['morning', 'walk', 'sleep', 'eat']. The result is printed as a list of tuples.

```
33 def tuple_string_length(s):
34     return s, len(s)
35 def mymap(my_func, my_list):
36     result = []
37     for i in my_list:
38         result.append(my_func(i))
39     return result
40 my_list = ['morning', 'walk', 'sleep', 'eat']
41 l = list(mymap(tuple_string_length, my_list))
42 print(l)
```

#Output



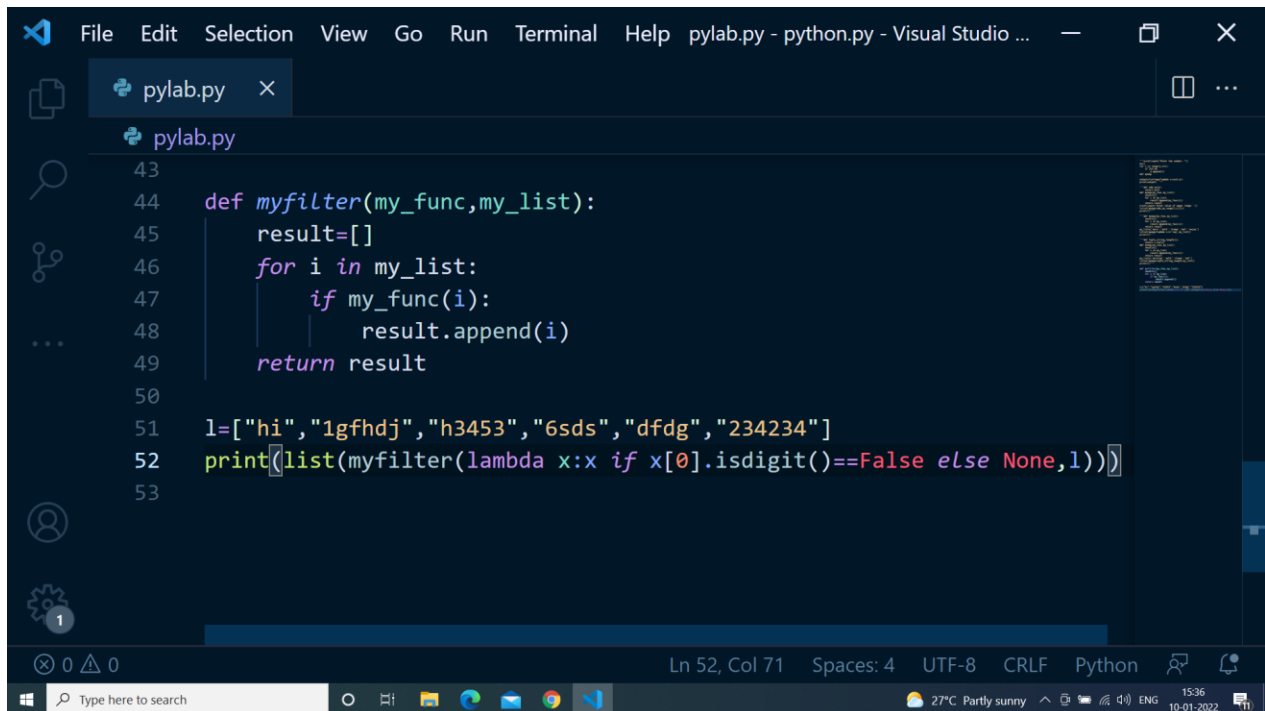
The screenshot shows a Windows PowerShell terminal window. It displays the command to run 'python pylab.py' and the resulting output, which is a list of tuples: [('morning', 7), ('walk', 4), ('sleep', 5), ('eat', 3)].

```
PS C:\Users\Fortnight\Desktop\python.py> python pylab.py
[('morning', 7), ('walk', 4), ('sleep', 5), ('eat', 3)]
PS C:\Users\Fortnight\Desktop\python.py>
```

(2) Write a function to mimic filter-called myfilter.

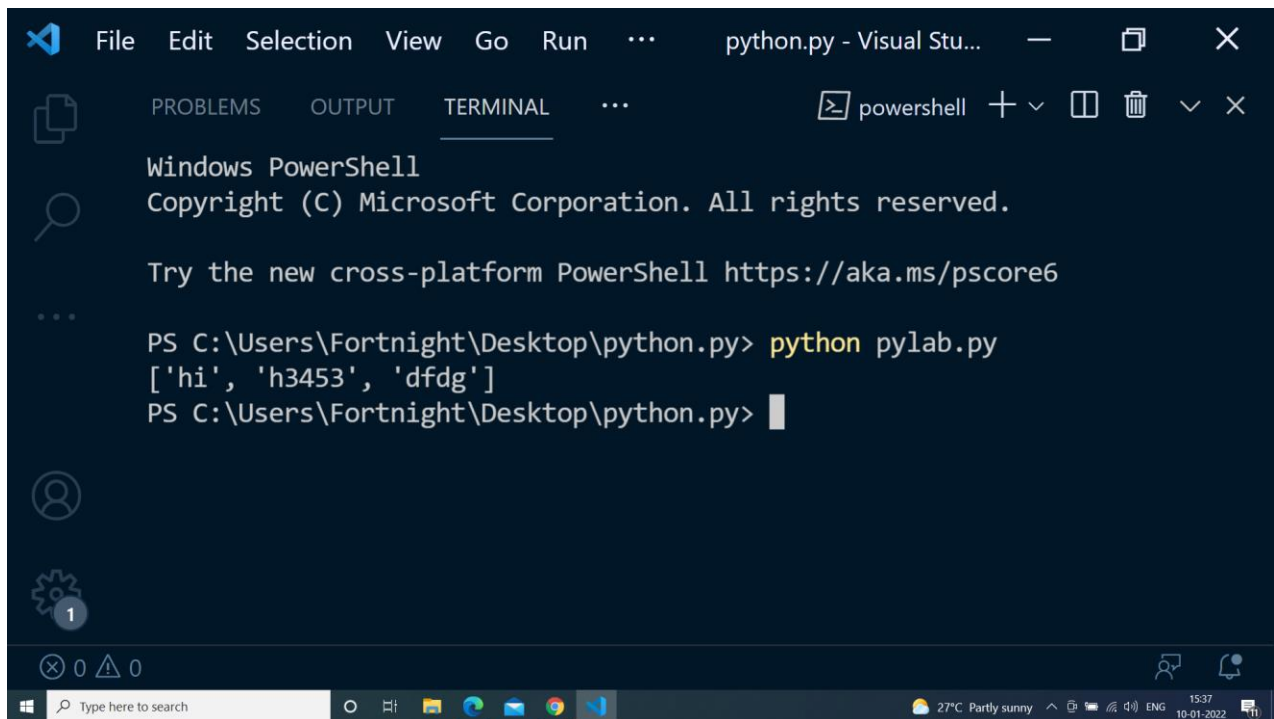
Given a list of strings remove all strings having first character as digit.

#Program



```
43
44 def myfilter(my_func,my_list):
45     result=[]
46     for i in my_list:
47         if my_func(i):
48             result.append(i)
49     return result
50
51 l=["hi","1gfhdj","h3453","6sds","dfdg","234234"]
52 print(list(myfilter(lambda x:x if x[0].isdigit()==False else None,l)))
53
```

#Output



The image shows a Visual Studio Code window with a terminal open. The terminal title is "python.py - Visual Stu...". The terminal tabs are "PROBLEMS", "OUTPUT", and "TERMINAL". The terminal output shows the Windows PowerShell prompt, copyright notice, and a command to run a Python script. The command has been executed, and the output is a list of three strings: ['hi', 'h3453', 'dfdg']. The terminal window is part of a Windows desktop environment, with the taskbar and system tray visible at the bottom.

```
python.py - Visual Stu...  
PROBLEMS OUTPUT TERMINAL  
Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.  
  
Try the new cross-platform PowerShell https://aka.ms/pscore6  
  
PS C:\Users\Fortnight\Desktop\python.py> python pylab.py  
['hi', 'h3453', 'dfdg']  
PS C:\Users\Fortnight\Desktop\python.py>
```

Windows taskbar: Type here to search, 27°C Partly sunny, 15:37, 10-01-2022