20MCA241-Data Science Lab D

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1. Create a 1 Dimensional array with 20 elements in float data type and use arange to fill the array with odd numbers from 1.
(i) Reshape array into 5X4 matrix
(ii) Display the elements of rows 2 to 5 and columns 1 to 3
(iii) Display the elements of 2nd and 3rd column
(iv) Display last 2 elements of last row

Code:

```
import numpy as np

arr=np.arange(1,40,2.0)
print(arr)
print(arr.dtype)

#i
rs=np.reshape(arr,(5,4))

#ii
print(rs[2:5,0:2])

#iii
print(rs[:, 1:3])

#iv
```
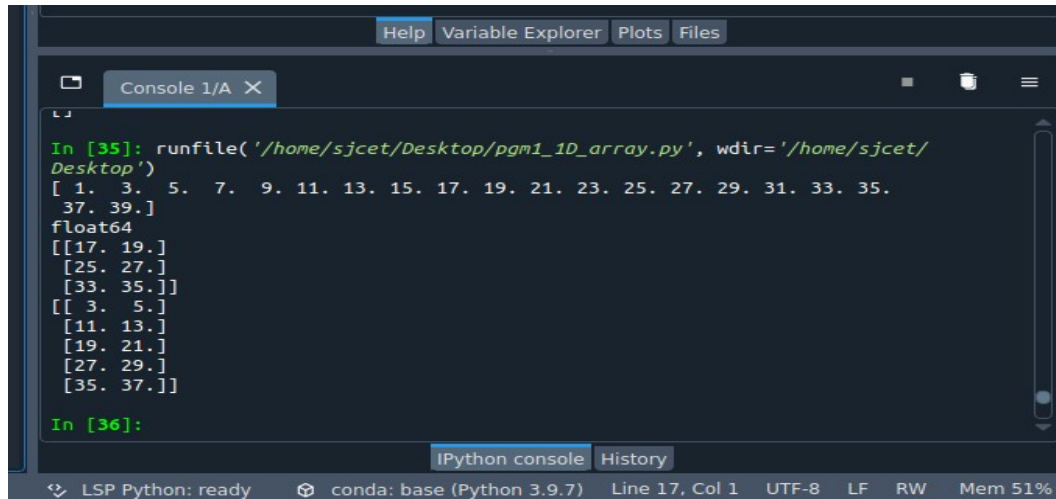
output:

2. Write a program to perform bubble sort on a given set of elements

code:

```
def bsort(listt):
    for i in range(0,len(listt)-1):
        for j in range(len(listt)-1):
            if(listt[j]>listt[j+1]):
                temp = listt[j]
                listt[j] = listt[j+1]
                listt[j+1] = temp
    return listt

listt = [7, 5, 0, 1, 9, 4]
print(" unsorted list: ", listt)

print(" list after bubble sort is applied: ", bsort(listt))
```

output:

```
In [29]: runfile('/home/sjcet/Desktop/pgm2_bubblesort.py', wdir='/home/sjcet/
Desktop')
 unsorted list:  [7, 5, 0, 1, 9, 4]
 list after bubble sort is applied:  [0, 1, 4, 5, 7, 9]

In [30]:
```

IPython console History

LSP Python: ready   conda: base (Python 3.9.7)   Line 14, Col 13   UTF-8   LF   RW   Mem 54%