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C:\Users\Nikhil Saini

C:\Users\Nikhil Saini\6-1.py

6-1.py | 6-2.py | 6-3.py | 6-4.py | 6-5.py | 6-6.py | 6-7.py | 6-8.py | 6-9.py

```python
# Ques 1

num = int(input("Enter a positive integer : "))
if num > 0 :
    def perfectNumber(num):
        sum = 0
        for i in range(1,num):
            if (num % i) == 0:
                sum+=i
        if sum == num :
            print(f"{num} is a perfect number ")
        else:
            print(f"{num} is not a perfect number")
    perfectNumber(num)

else:
    print("input positive integer")
```

Source Console Object

Usage

Variable explorer Help Plots Files

Console 1/A

```
In [1]: runcell(0, 'C:/Users/Nikhil Saini/6-1.py')

Enter a positive integer : 6
6 is a perfect number

In [2]: runcell(0, 'C:/Users/Nikhil Saini/6-1.py')

Enter a positive integer : 9
9 is not a perfect number

In [3]:
```

IPython console History

LSP Python: ready | conda (Python 3.8.8) | Line 17, Col 36 | ASCII | CRLF | RW | Mem 51%

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C:\Users\Nikhil Saini\6-2.py

6-1.py | 6-2.py | 6-3.py | 6-4.py | 6-5.py | 6-6.py | 6-7.py | 6-8.py | 6-9.py

```python
# Ques 2 : To Check whether the input string is a palindrome or not.

# function which return reverse of a string

def isPalindrome(s):
  return s == s[::-1]


# Driver code
s = input("Enter a word : ")
ans = isPalindrome(s)

if ans:
  print("Yes")
else:
  print("No")

```

Source Console Object

Usage

Variable explorer Help Plots Files

Console 1/A

```
In [3]: runcell(0, 'C:/Users/Nikhil Saini/6-2.py')

Enter a word : naman
Yes

In [4]: runcell(0, 'C:/Users/Nikhil Saini/6-2.py')

Enter a word : happy
No

In [5]:
```

IPython console History

LSP Python: ready | conda (Python 3.8.8) | Line 18, Col 1 | ASCII | CRLF | RW | Mem 50%

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C:\Users\Nikhil Saini\6-3.py

6-1.py | 6-2.py | 6-3.py | 6-4.py | 6-5.py | 6-6.py | 6-7.py | 6-8.py | 6-9.py

```
1  # Ques 3
2  def pascal_triangle(n):
3     start = [1]
4     y = [0]
5     for x in range(max(n,0)):
6        print(start)
7        start=[l+r for l,r in zip(start+y, y+start)]
8     return n>=1
9  pascal_triangle(6)
10
```

Source Console Object

Usage

Variable explorer Help Plots Files

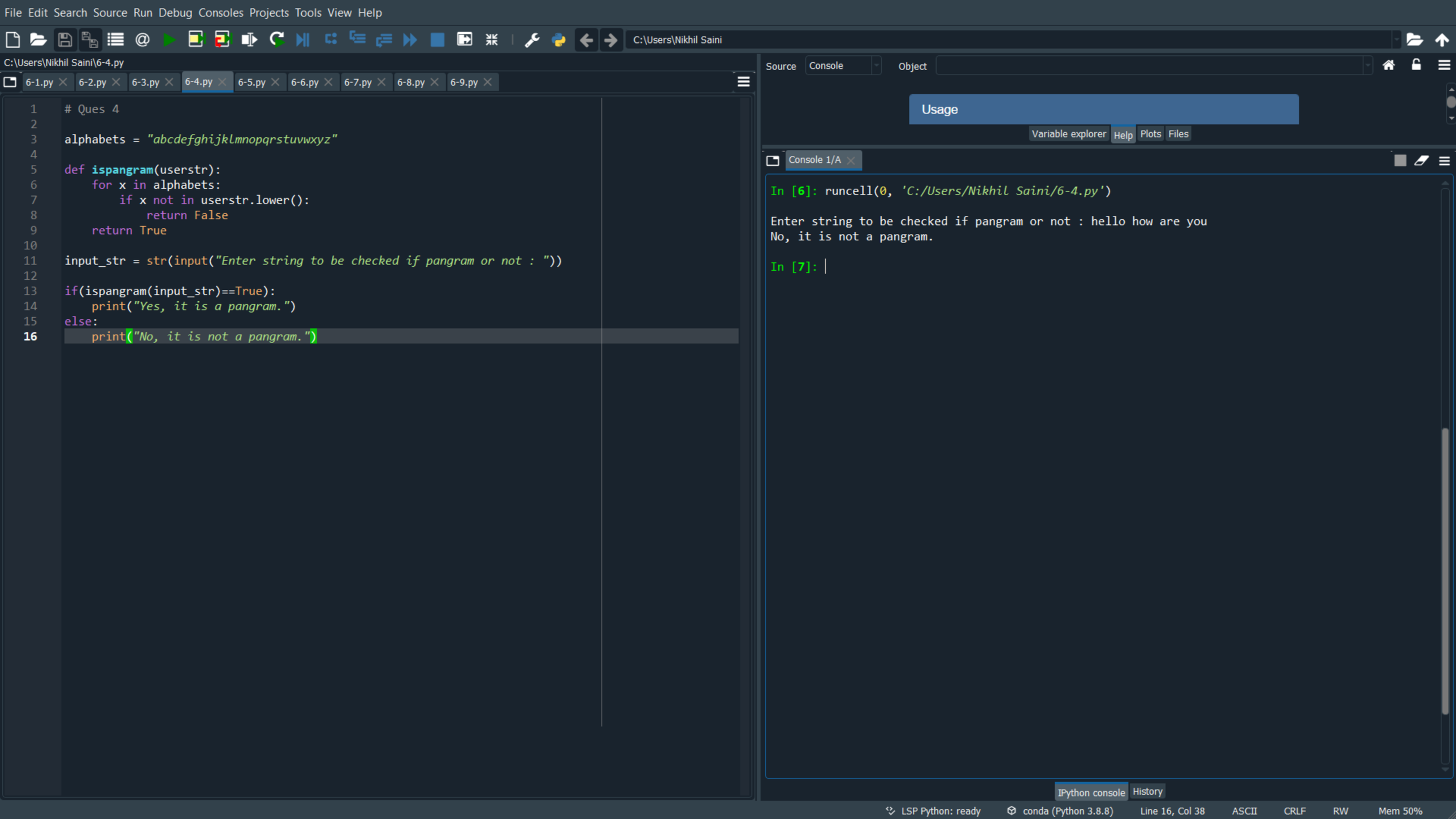
Console 1/A

```
In [5]: runcell(0, 'C:/Users/Nikhil Saini/6-3.py')
[1]
[1, 1]
[1, 2, 1]
[1, 3, 3, 1]
[1, 4, 6, 4, 1]
[1, 5, 10, 10, 5, 1]

In [6]:
```

IPython console History

LSP Python: ready conda (Python 3.8.8) Line 10, Col 1 ASCII CRLF RW Mem 50%


File Edit Search Source Run Debug Consoles Projects Tools View Help
C:\Users\Nikhil Saini
C:\Users\Nikhil Saini\6-4.py
6-1.py 6-2.py 6-3.py 6-4.py 6-5.py 6-6.py 6-7.py 6-8.py 6-9.py
# Ques 4
alphabets = "abcdefghijklmnopqrstuvwxyz"
def ispangram(userstr):
for x in alphabets:
if x not in userstr.lower():
return False
return True
input_str = str(input("Enter string to be checked if pangram or not : "))
if(ispangram(input_str)==True):
print("Yes, it is a pangram.")
else:
print("No, it is not a pangram.")
Source Console Object
Usage
Variable explorer Help Plots Files
Console 1/A
In [6]: runcell(0, 'C:/Users/Nikhil Saini/6-4.py')
Enter string to be checked if pangram or not : hello how are you
No, it is not a pangram.
In [7]:
IPython console History
LSP Python: ready
conda (Python 3.8.8)
Line 16, Col 38
ASCII
CRLF
RW
Mem 50%

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C:\Users\Nikhil Saini\6-5.py

6-1.py | 6-2.py | 6-3.py | 6-4.py | 6-5.py | 6-6.py | 6-7.py | 6-8.py | 6-9.py

```
1  # Ques 5
2  user_str = str(input("Enter hyphen separated sequence of words : "))
3  word_list = [n for n in user_str.split("-")] # creating a list of all words after separating them
4  word_list.sort()
5  print("Alphabetically sorted hyphen separated list is : ")
6  print("-".join(word_list))
```

Source Console Object

Usage

Variable explorer Help Plots Files

Console 1/A

```
In [7]: runcell(0, 'C:/Users/Nikhil Saini/6-5.py')

Enter hyphen separated sequence of words : hey-there-sup
Alphabetically sorted hyphen separated list is :
hey-sup-there

In [8]:
```

IPython console History

LSP Python: ready | conda (Python 3.8.8) | Line 6, Col 28 | ASCII | CRLF | RW | Mem 50%

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C:\Users\Nikhil Saini\6-6.py

6-1.py | 6-2.py | 6-3.py | 6-4.py | 6-5.py | 6-6.py | 6-7.py | 6-8.py | 6-9.py

```python
# Ques 6
def student_data(student_id,**kwargs):
    print("Student ID : ", student_id)
    if 'student_name' in kwargs:
        print("Student name : ",kwargs['student_name'])
    if 'student_class' in kwargs:
        print("Student class : ",kwargs['student_class'])

student_data(student_id= '21107008',student_name = 'Nikhil Saini')
print()
student_data(student_id= '21107008',student_class = 'Mechanical')
print()
student_data(student_id= '21107008',student_name = 'Nikhil Saini',student_class = 'Mechanical')

```

Source Console Object

Usage

Variable explorer Help Plots Files

Console 1/A

```
In [8]: runcell(0, 'C:/Users/Nikhil Saini/6-6.py')
Student ID :  21107008
Student name :  Nikhil Saini

Student ID :  21107008
Student class :  Mechanical

Student ID :  21107008
Student name :  Nikhil Saini
Student class :  Mechanical

In [9]:
```

IPython console History

LSP Python: ready conda (Python 3.8.8) Line 14, Col 1 ASCII CRLF RW Mem 50%

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C:\Users\Nikhil Saini\6-7.py

6-1.py | 6-2.py | 6-3.py | 6-4.py | 6-5.py | 6-6.py | 6-7.py | 6-8.py | 6-9.py

```
1  # Ques 7
2  class Student:
3      pass
4  class Marks:
5      pass
6  student1 = Student()
7  marks1 = Marks()
8  print("Checking for instances : ")
9  print(isinstance(student1, Student))
10 print(isinstance(marks1, Student))
11 print(isinstance(marks1, Marks))
12 print(isinstance(student1, Marks))
13 print("Checking whether the said classes are subclasses of the built-in object class or not.")
14 print(issubclass(Student, object))
15 print(issubclass(Marks, object))
```

Source Console Object

Usage

Variable explorer Help Plots Files

Console 1/A

```
In [9]: runcell(0, 'C:/Users/Nikhil Saini/6-7.py')
Checking for instances :
True
False
True
False
Checking whether the said classes are subclasses of the built-in object class or not.
True
True

In [10]:
```

IPython console History

LSP Python: ready | conda (Python 3.8.8) | Line 15, Col 35 | ASCII | CRLF | RW | Mem 50%

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C:\Users\Nikhil Saini

C:\Users\Nikhil Saini\6-8.py

6-1.py | 6-2.py | 6-3.py | 6-4.py | 6-5.py | 6-6.py | 6-7.py | 6-8.py | 6-9.py

```python
# Ques 8
class zerosum_solution:
 def findSum(self, nums):
        nums, result, i = sorted(nums), [], 0
        while i < len(nums) - 2:
            j, k = i + 1, len(nums) - 1
            while j < k:
                if nums[i] + nums[j] + nums[k] < 0:
                    j += 1
                elif nums[i] + nums[j] + nums[k] > 0:
                    k -= 1
                else:
                    result.append([nums[i], nums[j], nums[k]])
                    j, k = j + 1, k - 1
                    while j < k and nums[j] == nums[j - 1]:
                        j += 1
                    while j < k and nums[k] == nums[k + 1]:
                        k -= 1
            i += 1
            while i < len(nums) - 2 and nums[i] == nums[i - 1]:
                i += 1
        return result

print(zerosum_solution().findSum([-25, -10, -7, -3, 2, 4, 8, 10]))
```

Source Console Object

Usage

Variable explorer Help Plots Files

Console 1/A

```
In [10]: runcell(0, 'C:/Users/Nikhil Saini/6-8.py')
[[-10, 2, 8], [-7, -3, 10]]

In [11]:
```

IPython console History

LSP Python: ready conda (Python 3.8.8) Line 25, Col 1 ASCII CRLF RW Mem 51%

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C:\Users\Nikhil Saini\6-9.py

6-1.py | 6-2.py | 6-3.py | 6-4.py | 6-5.py | 6-6.py | 6-7.py | 6-8.py | 6-9.py

```python
# Ques 9
class py_solution:
    def is_valid_parenthese(self, str1):
        stack, pchar = [], {"(": ")", "{": "}", "[": "]"}
        for parenthese in str1:
            if parenthese in pchar:
                stack.append(parenthese)
            elif len(stack) == 0 or pchar[stack.pop()] != parenthese:
                return False
        return len(stack) == 0

print(py_solution().is_valid_parenthese("()"))
print(py_solution().is_valid_parenthese("()[]{}"))
print(py_solution().is_valid_parenthese("[)"))

```

Source Console Object

Usage

Variable explorer Help Plots Files

Console 1/A

```
In [11]: runcell(0, 'C:/Users/Nikhil Saini/6-9.py')
True
True
False

In [12]:
```

IPython console History

LSP Python: ready conda (Python 3.8.8) Line 15, Col 1 ASCII CRLF RW Mem 50%