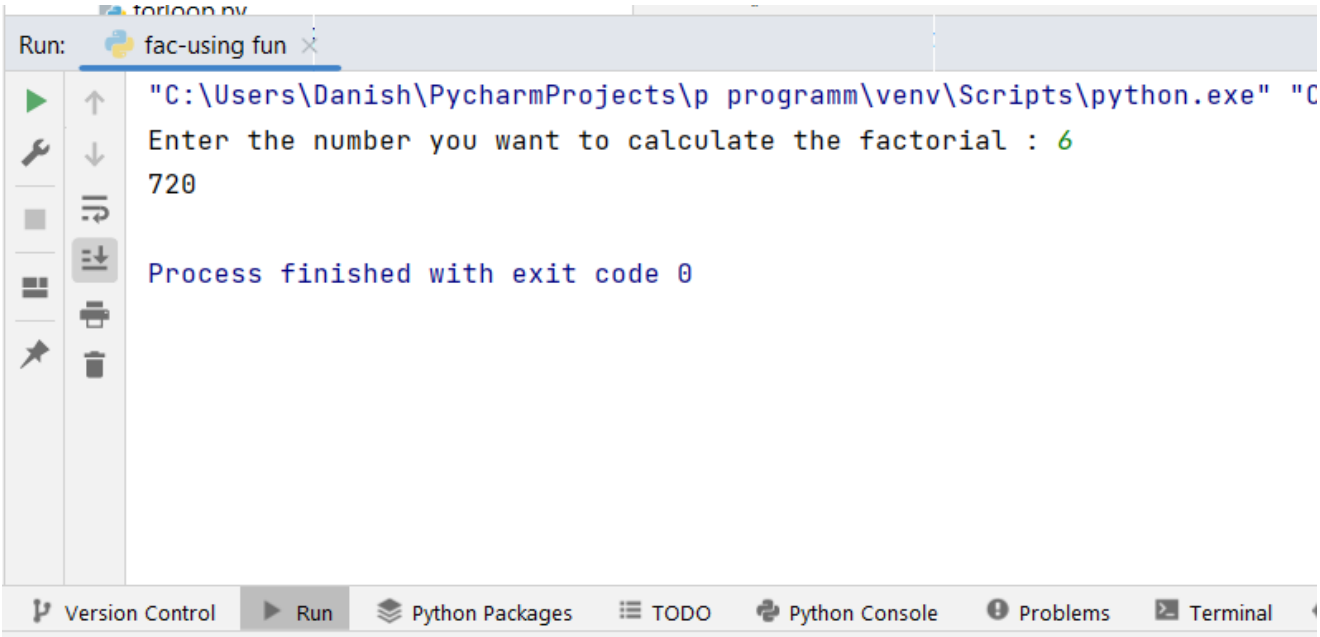
Practical No-13

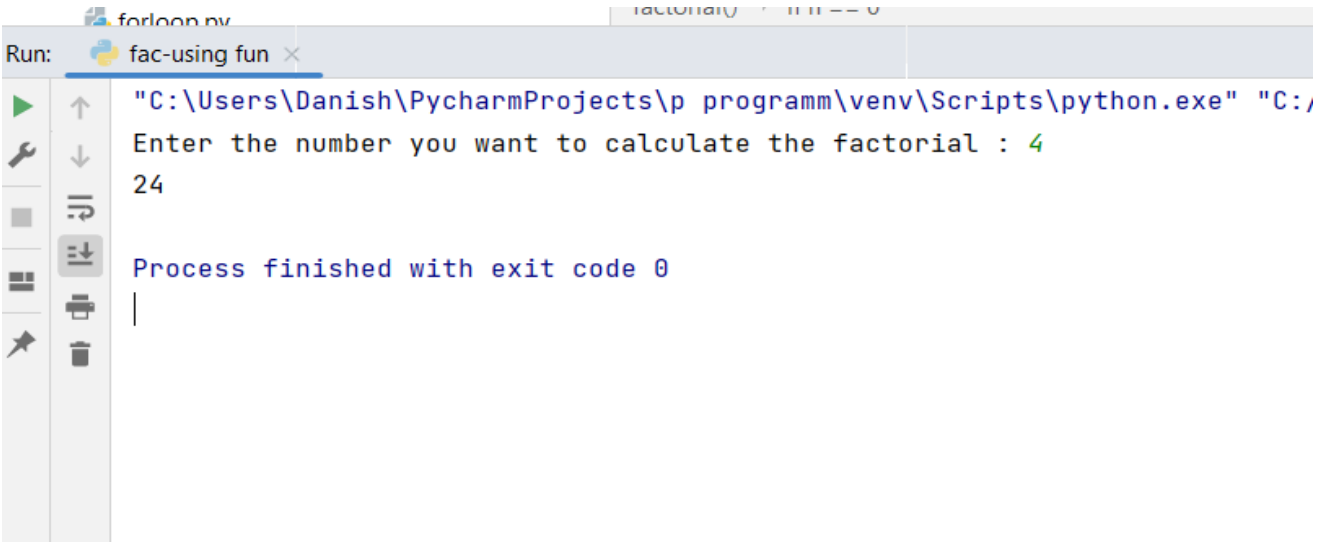
Title- Program to calculate the factorial of a number entered by the user by using functions

CODE:-

```
def factorial(n):
    if n == 0:
        return 1
    else:
        return n * factorial(n-1)
n=int(input("Enter the number you want to calculate the factorial : "))
print(factorial(n))
```

OUTPUT





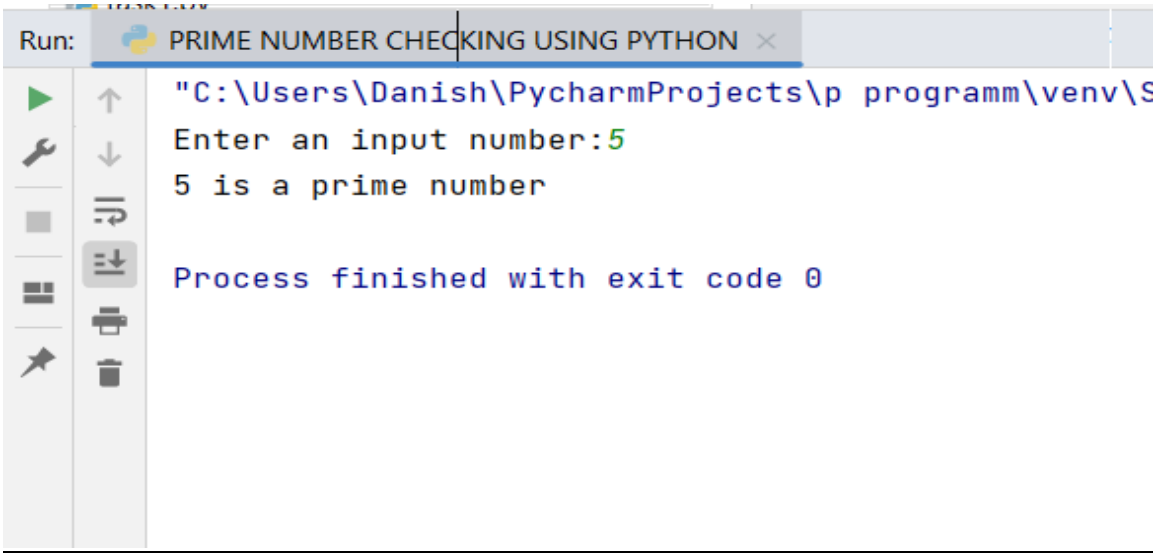
Practical No-14

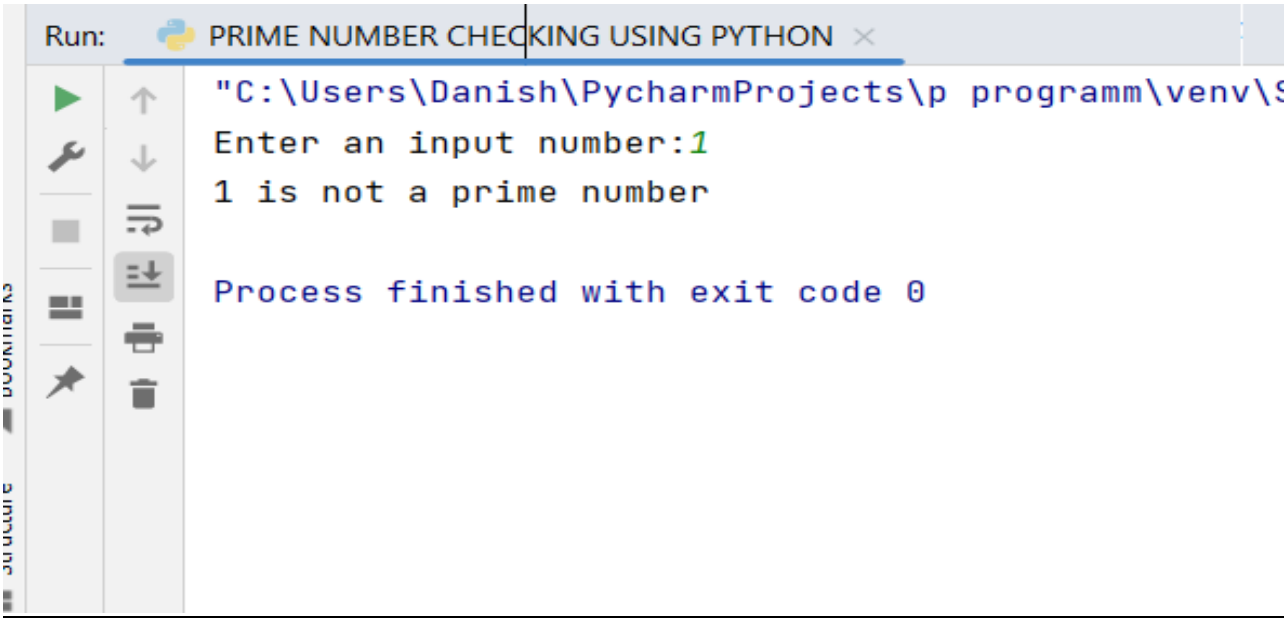
Title:- Program to check whether entered number by the user is a prime number or not by using functions.

CODE:-

```
def PrimeChecker(a):
    if a > 1:
        for j in range(2, int(a/2) + 1):

            if (a % j) == 0:
                print(a, "is not a prime number")
                break

        else:
            print(a, "is a prime number")

    else:
        print(a, "is not a prime number")

a = int(input("Enter an input number:"))

PrimeChecker(a)
```

OUTPUT:-




Run:
PRIME NUMBER CHECKING USING PYTHON
"C:\Users\Danish\PycharmProjects\p programm\venv\S
Enter an input number:1
1 is not a prime number
Process finished with exit code 0

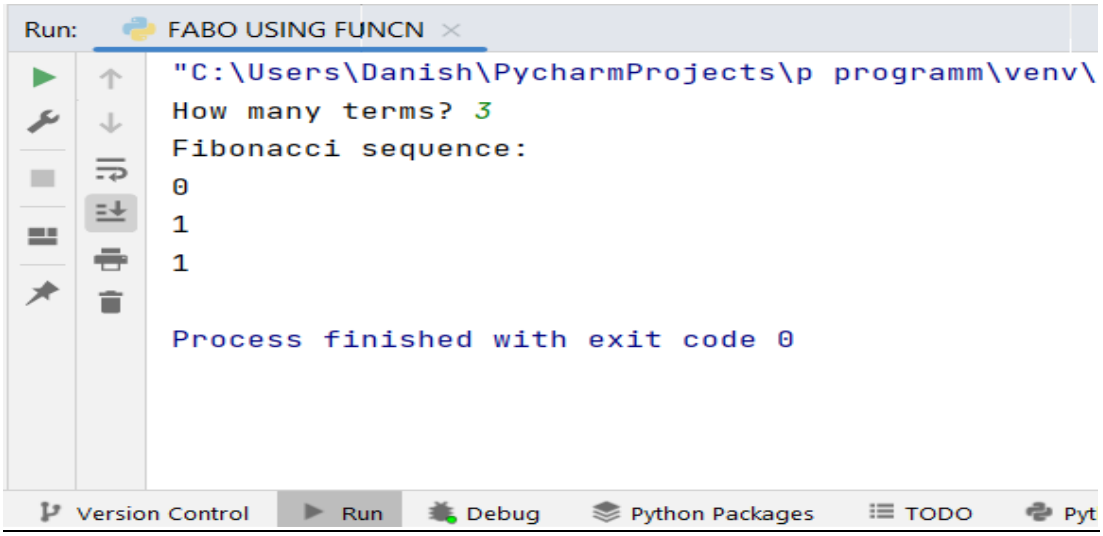
Practical No-15

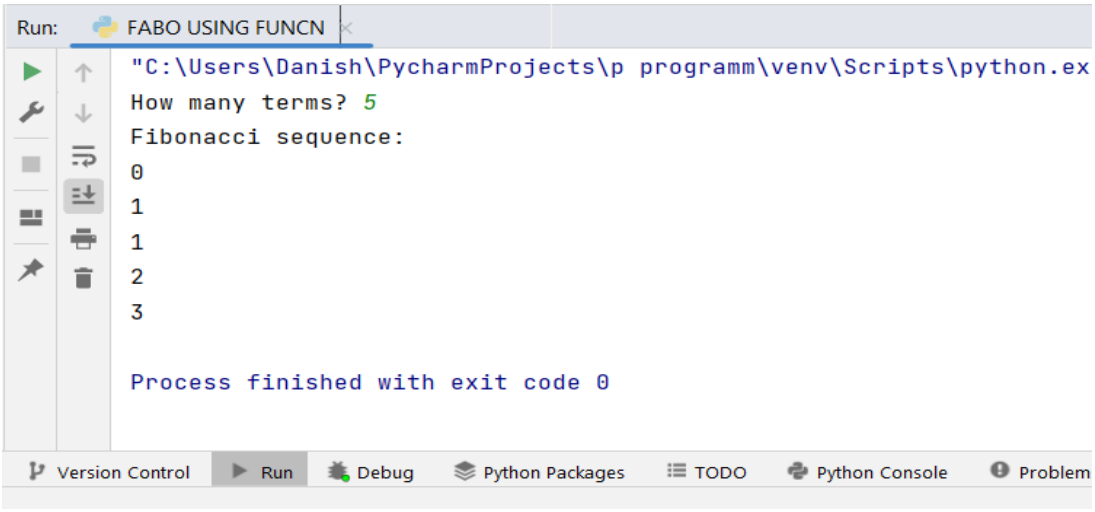
Title:- Program to print Fabonacci series using functions

CODE:-

```
def recur_fibo(n):
   if n <= 1:
      return n
   else:
      return(recur_fibo(n-1) + recur_fibo(n-2))

nterms = int(input("How many terms? "))

if nterms <= 0:
   print("Plese enter a positive integer")
else:
   print("Fibonacci sequence:")
   for i in range(nterms):
      print(recur_fibo(i))
```

OUTPUT:-





Practical No- 16

Title- Strings in Python.

Aim- To understand all the functions & concepts of strings in Python.

What is String?

String is a data type in Python, composed of a collection of character.

EXAMPLES:

Variable= “String” Variable= “Danish”

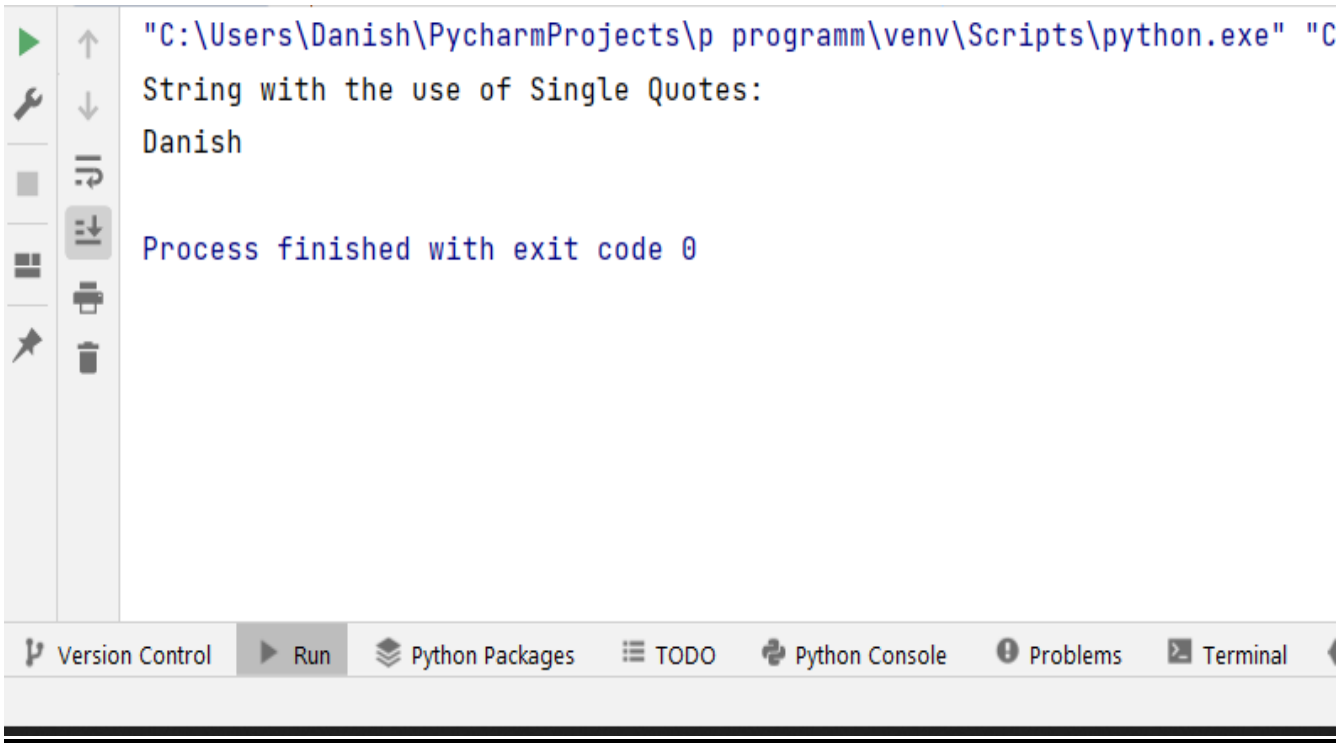
Creating strings in Python

String in Python can be created by using single quote, double quote, and even in triple quote.

CODE

```
String1 = 'Danish'
print('String with the use of Single Quotes: ')
print(String1)
```

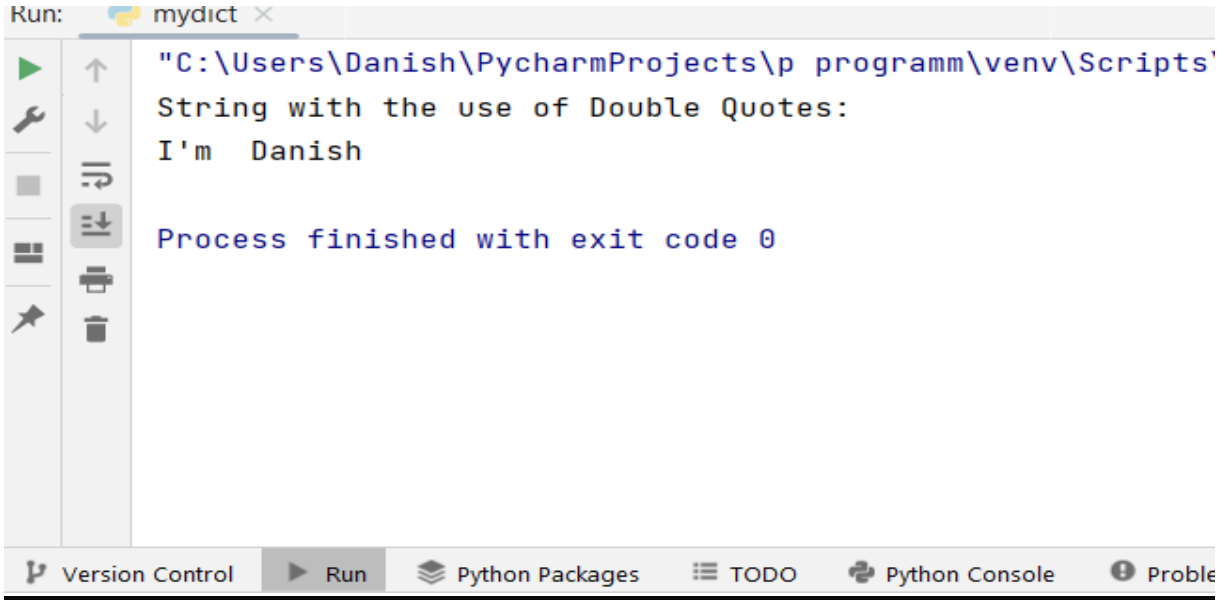
OUTPUT



CODE

```
String2 = "I'm Danish"
print("String with the use of Double Quotes: ")
print(String2)
```

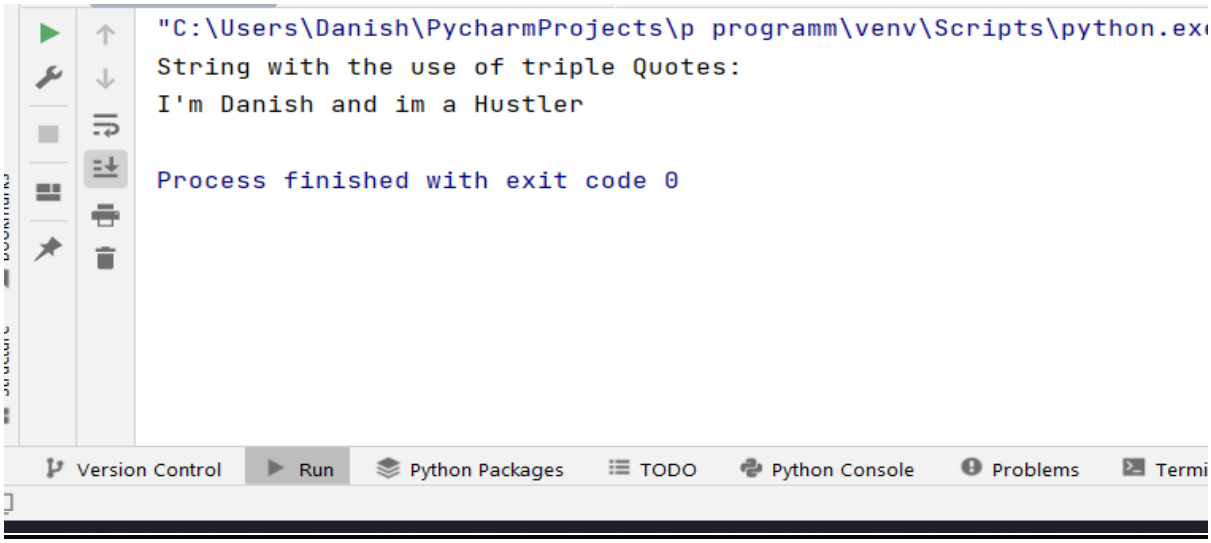
OUTPUT



CODE

```
String3 = "I'm Danish and im a Hustler"
print("String with the use of triple Quotes: ")
print(String3)
```

OUTPUT



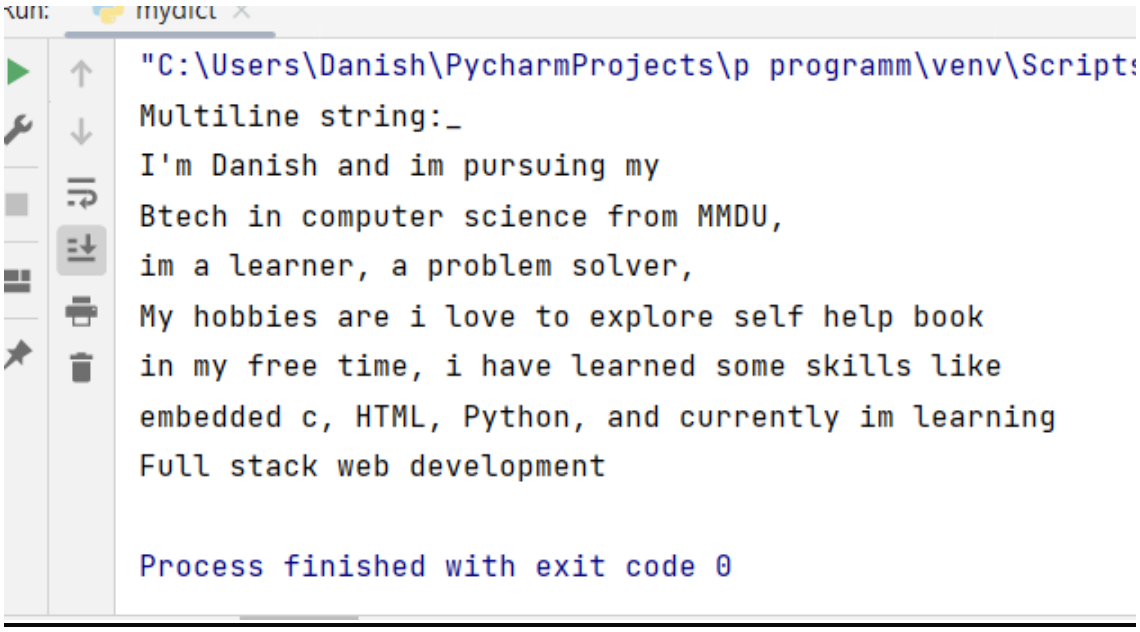
Multiline strings in Python

We can write multiline string in Python by string in triple quotes.

CODE

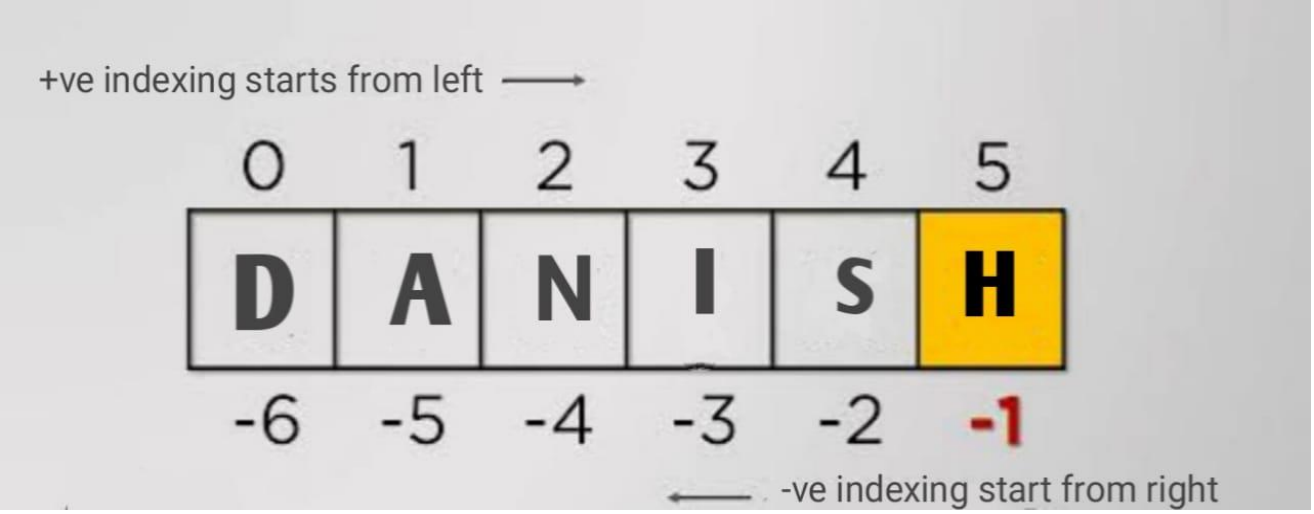
```
String4 ="'I'm Danish and im pursuing my
Btech in computer science from MMDU,
im a learner, a problem solver,
My hobbies are i love to explore self help book
in my free time, i have learned some skills like
embedded c, HTML, Python, and currently im learning
Full stack web development"'
print("'Multiline string:_ "')
print(String4)
```

OUTPUT



Accessing characters in python String

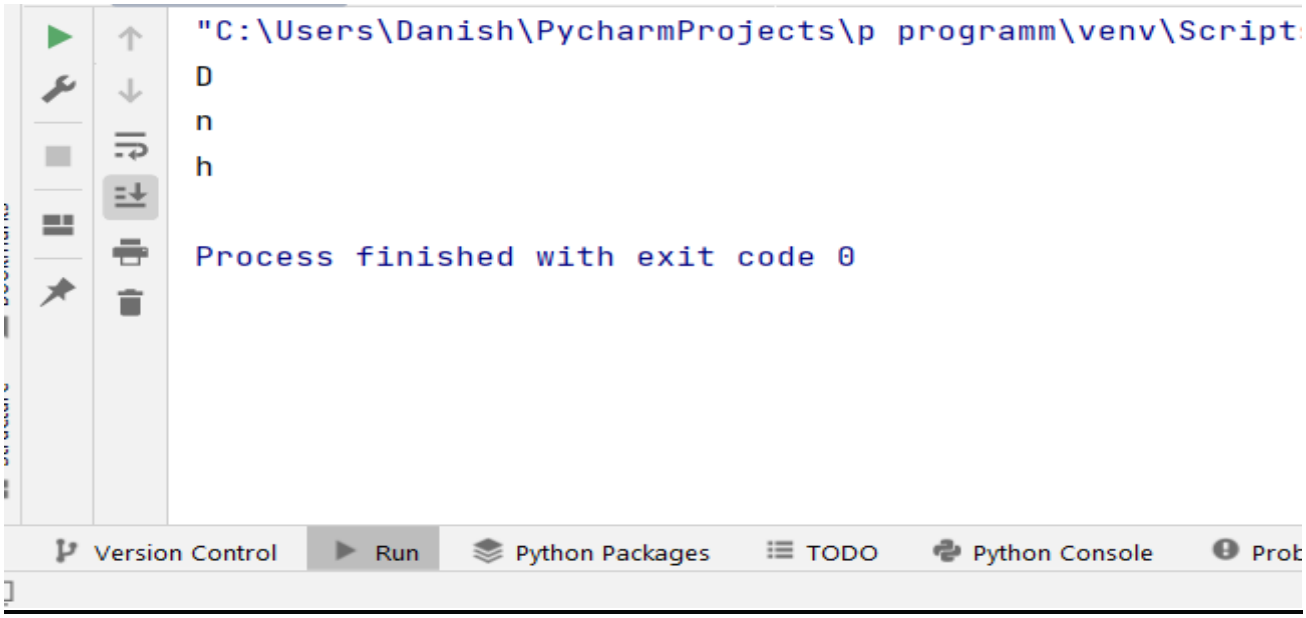
In Python, individual characters of a string can be accessed by using the method of Indexing.



CODE

```
str="Danish"

print(str[0])

print(str[2])

print(str[-1])
```

OUTPUT



Reversing String in Python

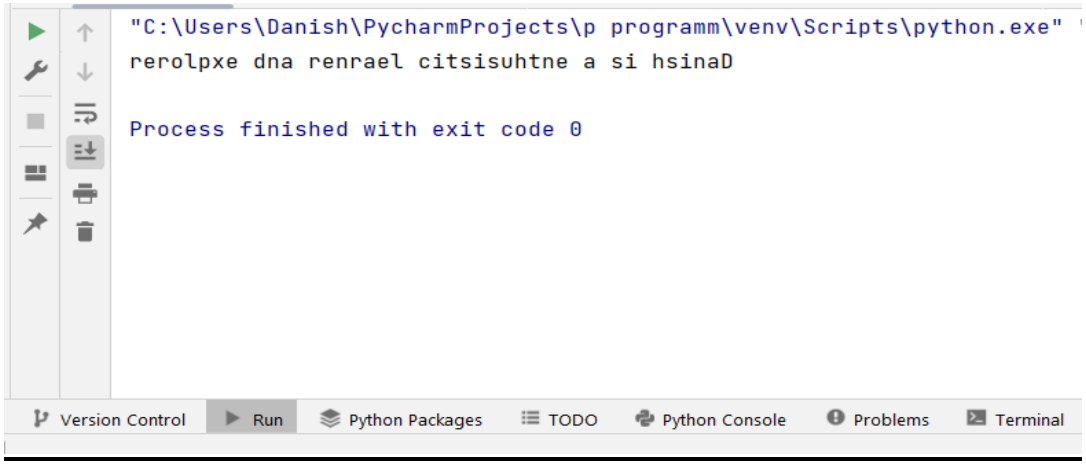
With accesing character from a string, we can also reverse them. We can reverse a string by writing [::-1] and the string will be reversed.

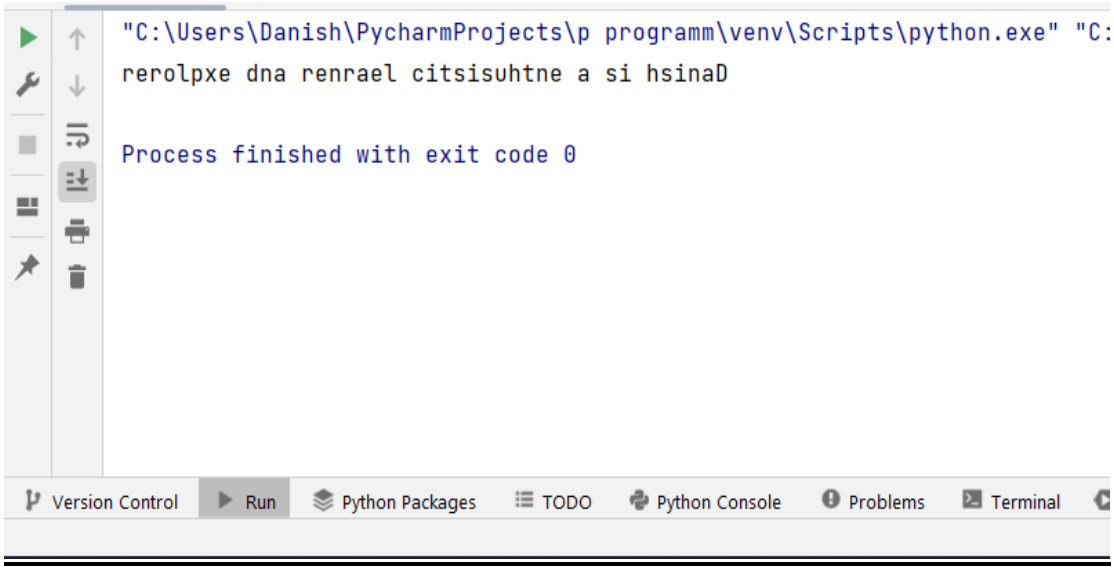
Note- We can also reverse a string by using built in **join** and **reversed** function.

CODE

```
str="Danish is a enthusistic learner and explorer"
print(str[::-1])

str = "".join(reversed(str))

print(str)
```

OUTPUT





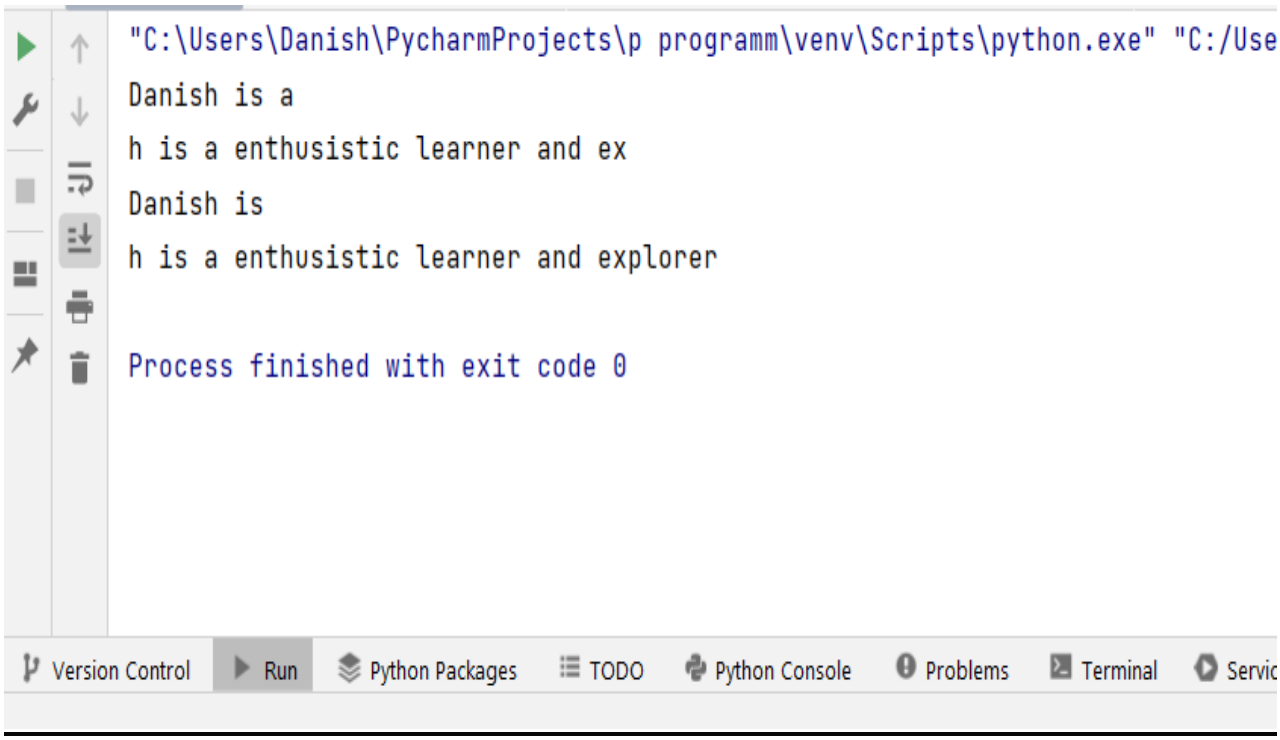
Silicing of string in Python

To access a range of characters in the string, the method of silicing is used.

CODE

```
str = "Danish is a enthusistic learner and explorer"
print(str[0:12])

print(str[5:-6])

print(str[:9])

print(str[5:])
```

OUTPUT



Functions of string in Python

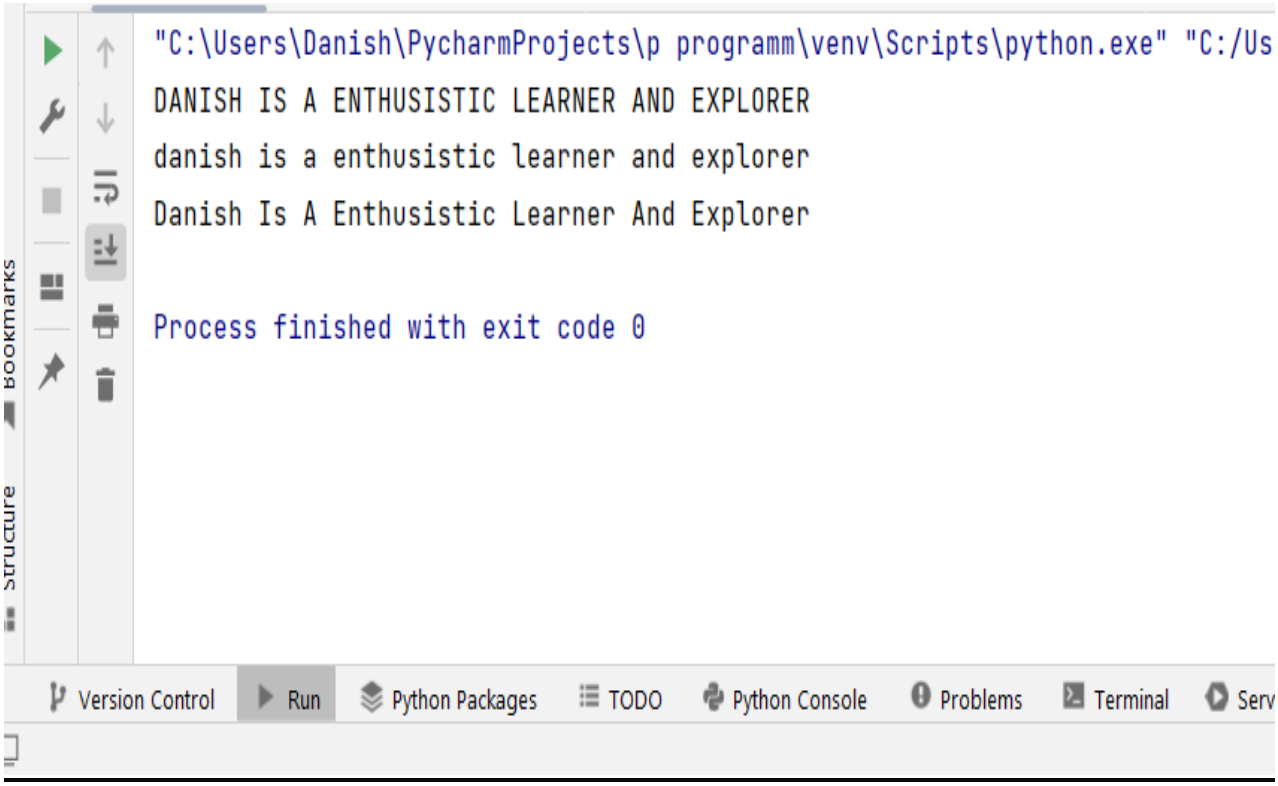
1) The below functions are used to change the case of the strings.

Lower(): Convert all uppercase character in a string into lowercase
Upper(): Convert all lowercase character in a string into uppercase
Title(): Convert string to title case

CODE

```
str = "Danish is a enthusistic learner and explorer"
print(str.upper())

print(str.lower())

print(str.title())
```

OUTPUT

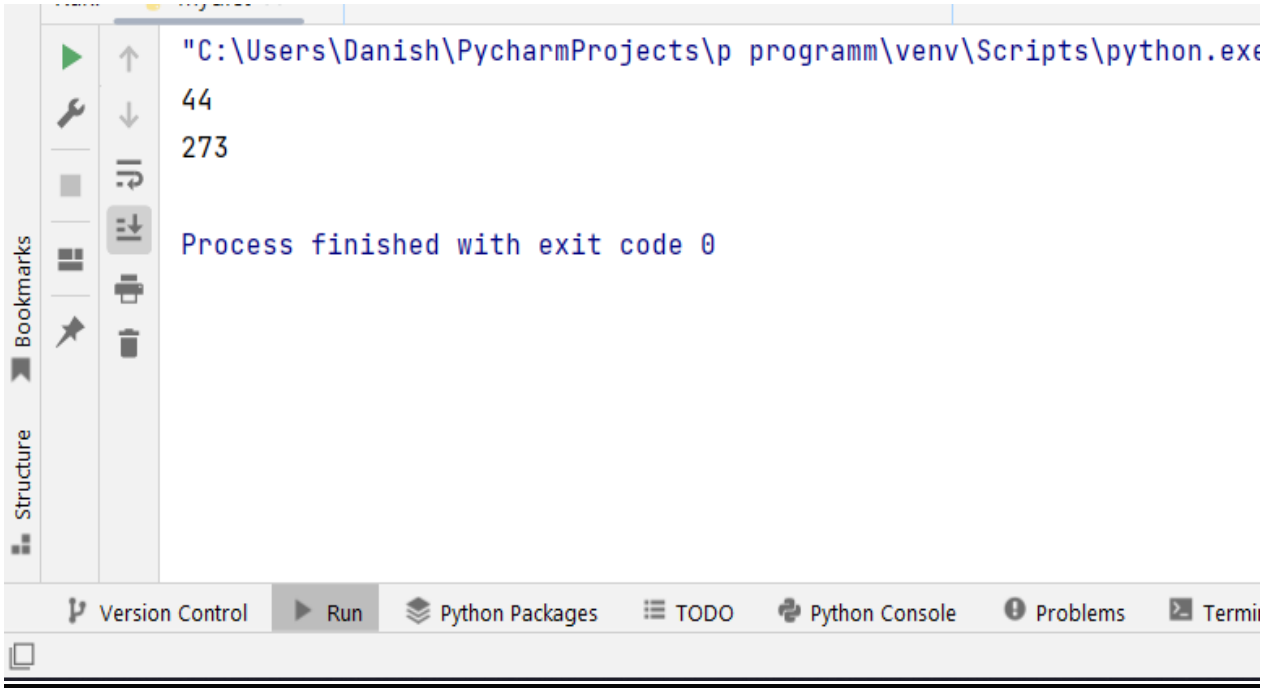


2) Len(): Use to know the length of string

CODE

```
str1 = "Danish is a enthusistic learner and explorer"

str2="'Python is a high level interpreted language,
    which is best suited for writing python scripts
     for automation and code re-usability.
    It was created in 1991 by Guido Van Rossum.
     The origin of its name is inspired by the comedy series called 'Monty      python"'

print(len(str1))

print(len(str2))
```

OUTPUT



3) find(): it is use to find the first occurance of the specified value.

It will return -1 if the value is not found.

CODE

```
str1 = "Danish is a enthusistic learner and explorer"
x = str1.find("D")
y = str1.find("z")

print(x)
print(y)
```

OUTPUT

4) isalnum(): it is used to check wether all the character in a given string are either alphabet or numeric (alphanumeric) characters

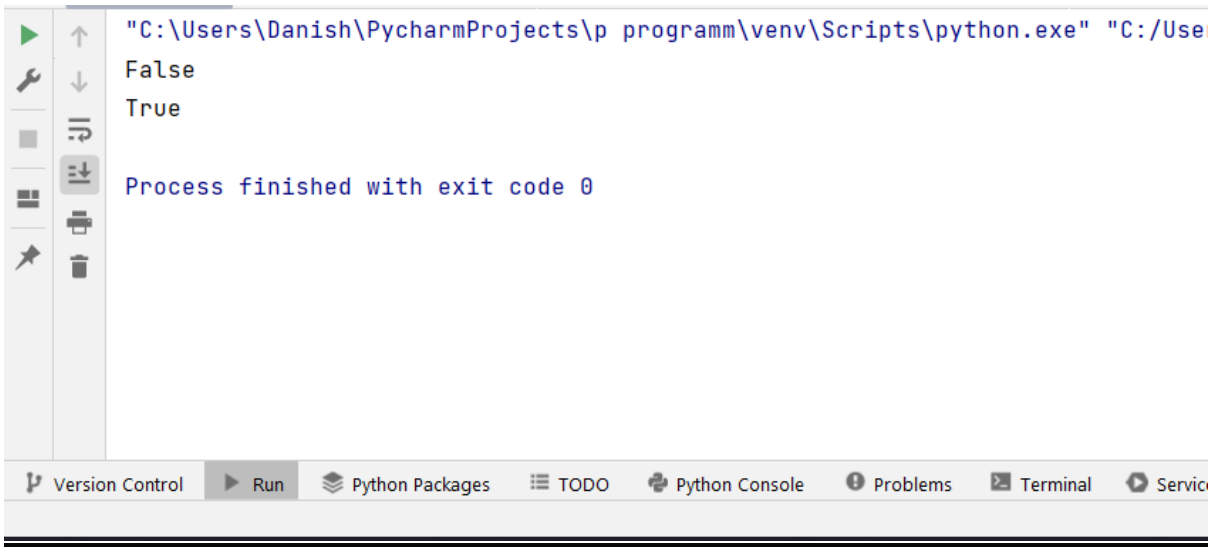
It will return **TRUE** if all characters are alphanumeric

It will return **FALSE** if all characters are not alphanumeric

CODE

```
str1 = "Danish is a enthusistic learner and explorer"
str2 = "abc145"
print(str1.isalnum())
print(str2.isalnum())
```

OUTPUT



5) split(): It is used to split string into the list

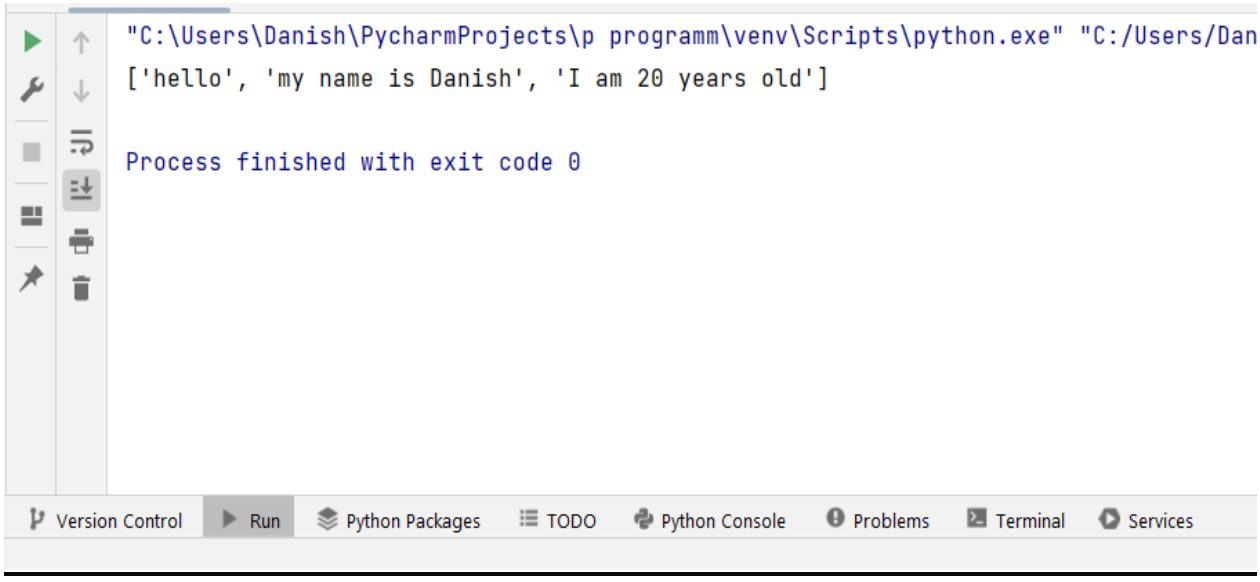
CODE

txt = "hello, my name is Peter, I am 26 years old"

x = txt.split(", ")

print(x)

OUTPUT



6) replace(): The replace method replace a specified phrase with another phrase

CODE

```
string = "Hoy it's me Danish"
new_string = string.replace("o", "e" )

print(string)
print(new_string)
```

OUTPUT

7) isdigit(): The isdigit method returns **True** if all the character are digit, otherwise **false.**

CODE

```
a = "u0030"
b = "u00B2"

print(a.isdigit())
print(b.isdigit())
```

OUTPUT