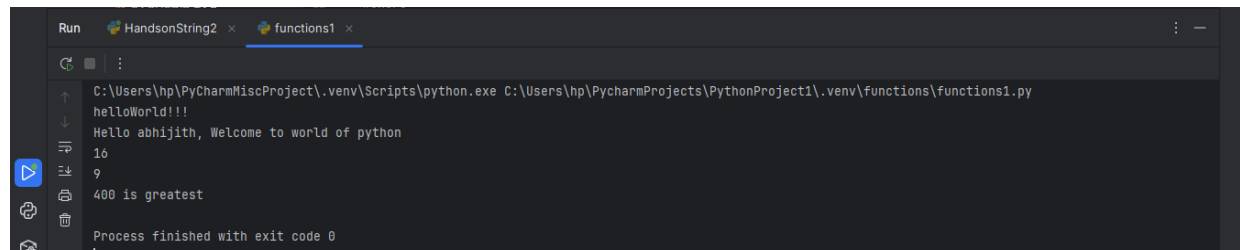


Hands-on Functions

```
'''# Exercise 1: Write a function that prints "Hello, World!"
# Exercise 2: Write a function that takes a name as input and prints a
greeting
# Exercise 3: Write a function that returns the square of a number
# Exercise 4: Write a function to add two numbers and return the result
# Exercise 5: Write a function that returns the maximum of three numbers'''
#exer1
def greet():
    print("helloWorld!!!")
greet()
#exer2
def greetuser(name):
    print("Hello "+name+", Welcome to world of python")
greetuser("abhijith")
#exer3
def sqr(n):
    return n*n
print(sqr(4))
#exer4
def add(a,b):
    return a+b
print(add(4,5))
#exer5
def greatest(a,b,c):
    if(a>b):
        if(a>c):
            print(f"{a} is gratest")
        else:
            print(f"{c} is greatest")
    else:
        if(b>c):
            print(f"{b} is greatest")
        else:
            print(f"{c} is greatest")
greatest(60,400,25)
```

Output)



The screenshot shows a Python IDE window with two tabs: 'HandsonString2' and 'functions1'. The 'Run' console is active, displaying the output of the script 'functions1.py'. The output is as follows:

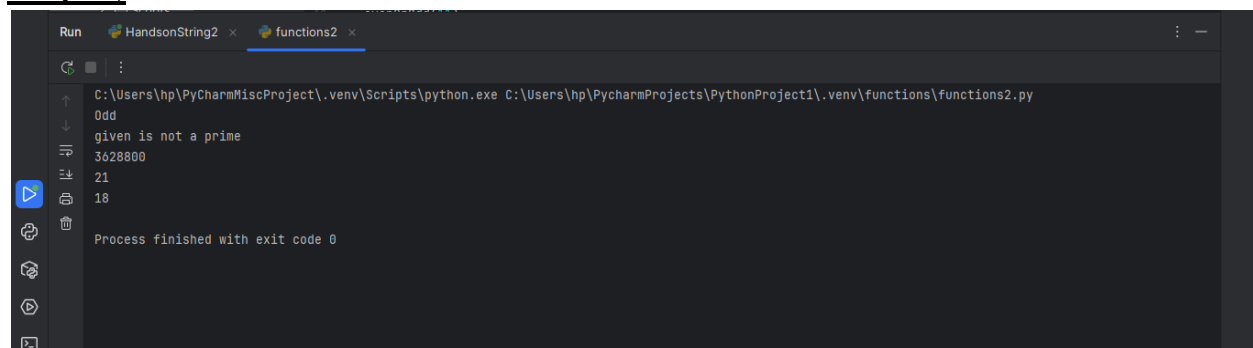
```
C:\Users\hp\PyCharmMiscProject\.venv\Scripts\python.exe C:\Users\hp\PyCharmProjects\PythonProject1\.venv\functions\functions1.py
helloWorld!!!
Hello abhijith, Welcome to world of python
16
9
400 is greatest
Process finished with exit code 0
```

```

''' Exercise 6: Write a function that checks if a number is even or odd
# Exercise 7: Write a function that takes a number and returns True if it is
prime
# Exercise 8: Write a function to calculate the factorial of a number
# Exercise 9: Write a function to find the sum of all numbers in a list
# Exercise 10: Write a function that accepts a list and returns the largest
number'''
#exer6
def evenOrOdd(n):
    if (n%2==0):
        print("Even")
    else:
        print("Odd")
evenOrOdd(11)
#exer7
def isPrime(n):
    temp=0
    for i in range(2,int(n**0.5)+1):
        if (n%i==0):
            temp=1
            break
    if (temp==0):
        print("given is a prime number")
    else:
        print("given is not a prime")
isPrime(8)
#exer8
def fact(n):
    fact=1
    for i in range(1,n+1):
        fact=fact*i
    print(fact)
fact(10)
#exer9
def sumOfList(list_a):
    sum=0
    for i in list_a:
        sum+=i
    print(sum)
sumOfList([1,2,3,4,5,6])
#exer10
def maximumInList(list_b):
    print(max(list_b))
maximumInList([5,7,18,5,8,1,6,0])

```

Output)



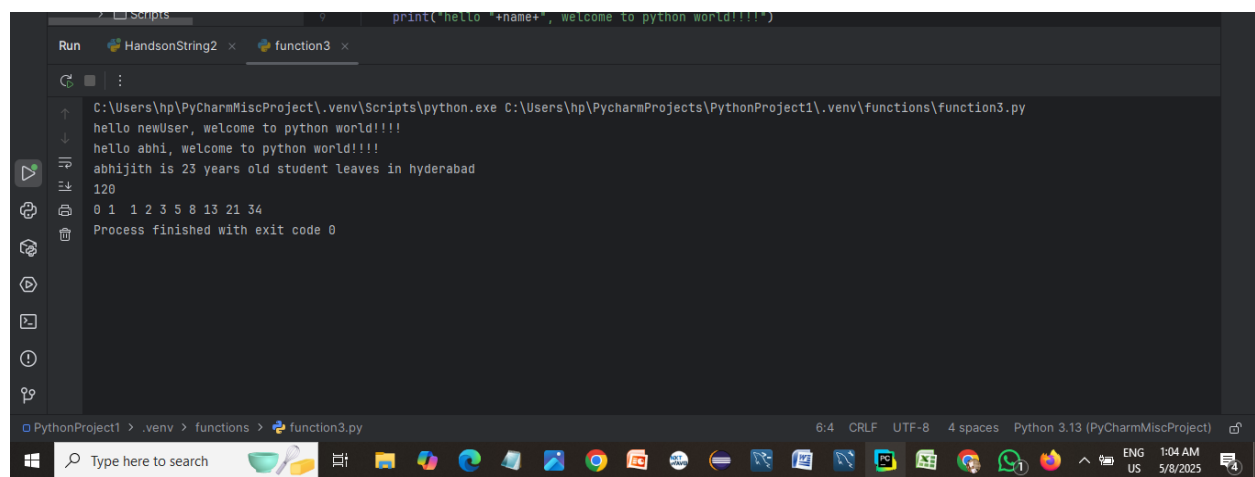
```

Run
HandsonString2 x functions2 x
C:\Users\hp\PyCharmMiscProject\.venv\Scripts\python.exe C:\Users\hp\PyCharmProjects\PythonProject1\.venv\functions\functions2.py
Odd
given is not a prime
3628800
21
18
Process finished with exit code 0

```

```
'''
# Exercise 11: Write a function that greets a user with a default name if no
name is provided
# Exercise 12: Write a function with two arguments and use keyword arguments
to call it
# Exercise 13: Write a recursive function to calculate factorial
# Exercise 14: Write a recursive function to print Fibonacci sequence up to n
terms
'''
#exer11
def greet(name="newUser"):
    print("hello "+name+", welcome to python world!!!!")
greet()
greet("abhi")
#exer12
def studDetails(name,age,city):
    print(f"{name} is {age} years old student leaves in {city}")
studDetails(name="abhijith",age=23,city="hyderabad")
#exer13
def fact(n):
    if(n==0):
        return 1
    return n*fact(n-1)
print(fact(5))
#exer14
def feb(a,b,n):
    if(n==0):
        return 0
    print(a+b,end=" ")
    return feb(b,a+b,n-1)
a=0
b=1
n=10
print("0 1 ",end=" ")
feb(a,b,n-2)
```

Output)



```
Run
HandsonString2 x function3 x
C:\Users\hp\PyCharmMiscProject\.venv\Scripts\python.exe C:\Users\hp\PyCharmProjects\PythonProject1\.venv\functions\function3.py
hello newUser, welcome to python world!!!!
hello abhi, welcome to python world!!!!
abhijith is 23 years old student leaves in hyderabad
120
0 1 1 2 3 5 8 13 21 34
Process finished with exit code 0
```

```
'''Exercise 15: Use a lambda function to double a number
# Exercise 16: Use `map()` to square all numbers in a list
# Exercise 17: Use `filter()` to get even numbers from a list'''

#exer16
double = lambda x: x * 2
print(double(5)) # Output: 10
#exer16
numbers = [1, 2, 3, 4, 5]
squared = list(map(lambda x: x ** 2, numbers))
print(squared) # Output: [1, 4, 9, 16, 25]
#exer17
numbers = [1, 2, 3, 4, 5, 6]
evens = list(filter(lambda x: x % 2 == 0, numbers))
print(evens) # Output: [2, 4, 6]
```

Output)

The screenshot shows the PyCharm IDE interface. The top toolbar includes icons for file operations, running, and debugging. The left sidebar shows the project structure with a folder named 'functions' containing several Python files. The main editor window displays the code for 'functions4.py', which includes the lambda function for doubling a number and the use of 'map' and 'filter' functions. The 'Run' console at the bottom shows the execution output: '10', '[1, 4, 9, 16, 25]', and '[2, 4, 6]'. The status bar at the bottom indicates the file path 'C:\Users\hp\PyCharmMiscProject\.venv\Scripts\python.exe C:\Users\hp\PyCharmProjects\PythonProject1\.venv\functions\functions4.py' and the Python version 'Python 3.13 (PyCharmMiscProject)'.

```

'''Exercise 18: Write a function that returns True if a string is a
palindrome
# Exercise 19: Write a function to count vowels in a string
# Exercise 20: Write a function that takes a string and returns a dictionary
with character counts'''
#exer18
def ispal(string):
    if(string==string[::-1]):
        print("is palindrome")
    else:
        print("not a palindrome")
ispal("sagas")
ispal("abhiijith")
#exer19
def countVowel(string):
    count=0
    for i in string:
        if i in ("a","e","i","o","u","A","E","I","O","U"):
            count=count+1
    print("total count of vowels in "+string+" is "+str(count))
countVowel("abhiijithsai")
#exer20
def createdict(string):
    dict_a={}
    for i in string:
        if i in dict_a:
            dict_a[i]=dict_a[i]+1
        else:
            dict_a[i]=1
    print(dict_a)
createdict("abhiijithsai")

```

Output)

```

def ispal(string):
    if(string==string[::-1]):
        print("is palindrome")
    else:
        print("not a palindrome")

def countVowel(string):
    count=0
    for i in string:
        if i in ("a","e","i","o","u","A","E","I","O","U"):
            count=count+1
    print("total count of vowels in "+string+" is "+str(count))

def createdict(string):
    dict_a={}
    for i in string:
        if i in dict_a:
            dict_a[i]=dict_a[i]+1
        else:
            dict_a[i]=1
    print(dict_a)

```

Run

```

C:\Users\hp\PyCharmMiscProject\.venv\Scripts\python.exe C:\Users\hp\PyCharmProjects\PythonProject1\.venv\functions\functions5.py
is palindrome
not a palindrome
total count of vowels in abhiijithsai is 5
{'a': 2, 'b': 1, 'h': 2, 'i': 3, 'j': 1, 't': 1, 's': 1}
Process finished with exit code 0

```

PythonProject1 > .venv > functions > functions5.py 7:31 CRLF UTF-8 4 spaces Python 3.13 (PyCharmMiscProject)

