# **Assignment -1**

Python Programming

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| Assignment Date | 29 September 2022 |
| Team ID | PNT2022TMID44156 |
| Student Name | Shafya N |
| Student Roll Number | 724019104021 |
| Maximum Marks | 2 Marks |

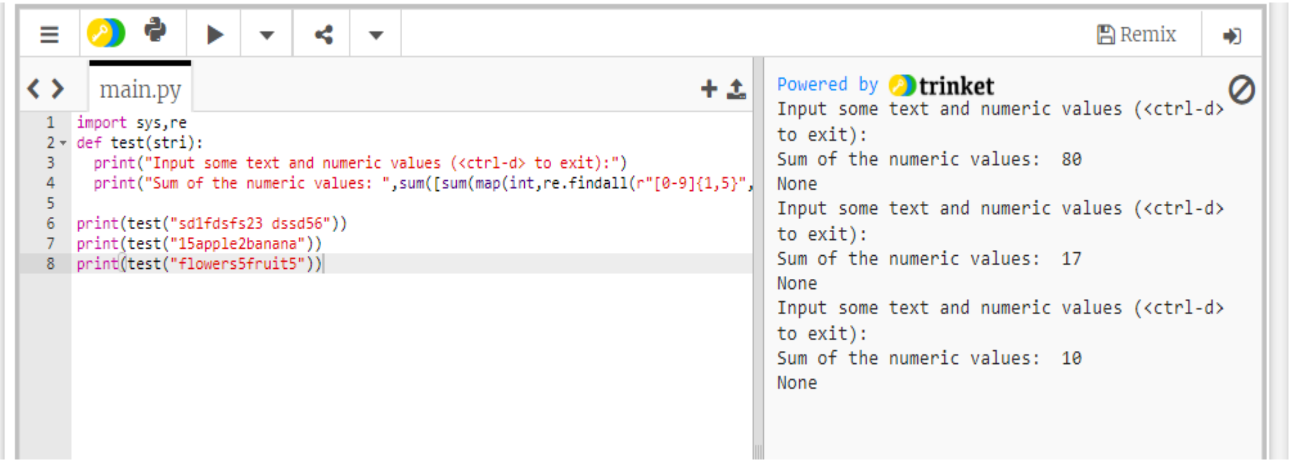
**Question-1:**

Write a Python program to sum of all numerical values (positive integers) embedded in a sentence.

**Solution:**

```
import sys,re

def test(stri):

  print("Input some text and numeric values (<ctrl-d> to exit):")

  print("Sum of the numeric values: ",sum([sum(map(int,re.findall(r"[0-9]{1,5}",stri)))]))


print(test("sd1fdsfs23 dssd56"))

print(test("15apple2banana"))

print(test("flowers5fruit5"))
```

**Output:**



```
import sys,re
def test(stri):
  print("Input some text and numeric values (<ctrl-d> to exit):")
  print("Sum of the numeric values: ",sum([sum(map(int,re.findall(r"[0-9]{1,5}",

print(test("sd1fdsfs23 dssd56"))
print(test("15apple2banana"))
print(test("flowers5fruit5"))
```

```
Input some text and numeric values (<ctrl-d>
to exit):
Sum of the numeric values:  80
None
Input some text and numeric values (<ctrl-d>
to exit):
Sum of the numeric values:  17
None
Input some text and numeric values (<ctrl-d>
to exit):
Sum of the numeric values:  10
None
```

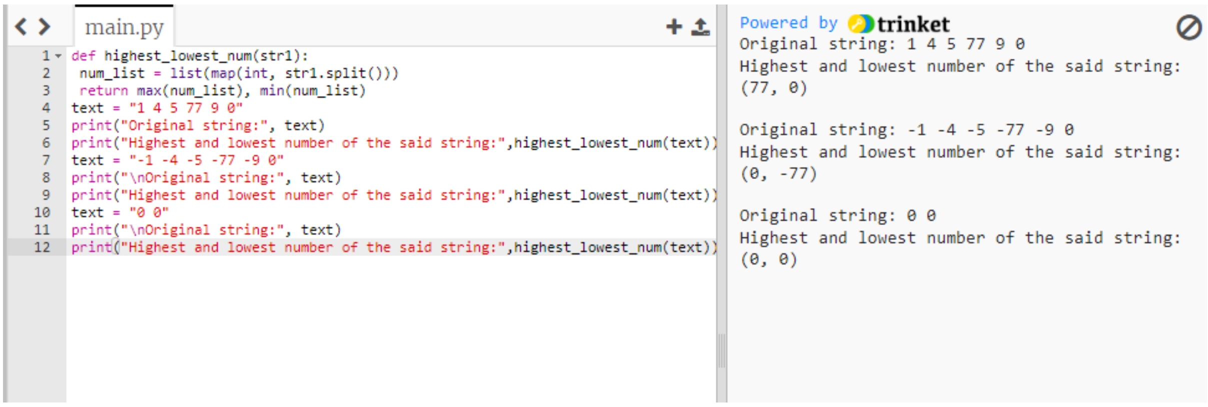
**Question-2:**

Write a Python program to find the highest and lowest number from a given string of space separated integers.

**Solution:**

```
def highest_lowest_num(str1):
 num_list = list(map(int, str1.split()))
 return max(num_list), min(num_list)
text = "1 4 5 77 9 0"
print("Original string:", text)
print("Highest and lowest number of the said
string:",highest_lowest_num(text))
text = "-1 -4 -5 -77 -9 0"
print("\nOriginal string:", text)
print("Highest and lowest number of the said
string:",highest_lowest_num(text))
text = "0 0"
print("\nOriginal string:", text)
print("Highest and lowest number of the said
string:",highest_lowest_num(text))
```

**Output:**



```
def highest_lowest_num(str1):
 num_list = list(map(int, str1.split()))
 return max(num_list), min(num_list)
text = "1 4 5 77 9 0"
print("Original string:", text)
print("Highest and lowest number of the said string:",highest_lowest_num(text))
text = "-1 -4 -5 -77 -9 0"
print("\nOriginal string:", text)
print("Highest and lowest number of the said string:",highest_lowest_num(text))
text = "0 0"
print("\nOriginal string:", text)
print("Highest and lowest number of the said string:",highest_lowest_num(text))
```

```
Original string: 1 4 5 77 9 0
Highest and lowest number of the said string:
(77, 0)

Original string: -1 -4 -5 -77 -9 0
Highest and lowest number of the said string:
(0, -77)

Original string: 0 0
Highest and lowest number of the said string:
(0, 0)
```

**Question-3**

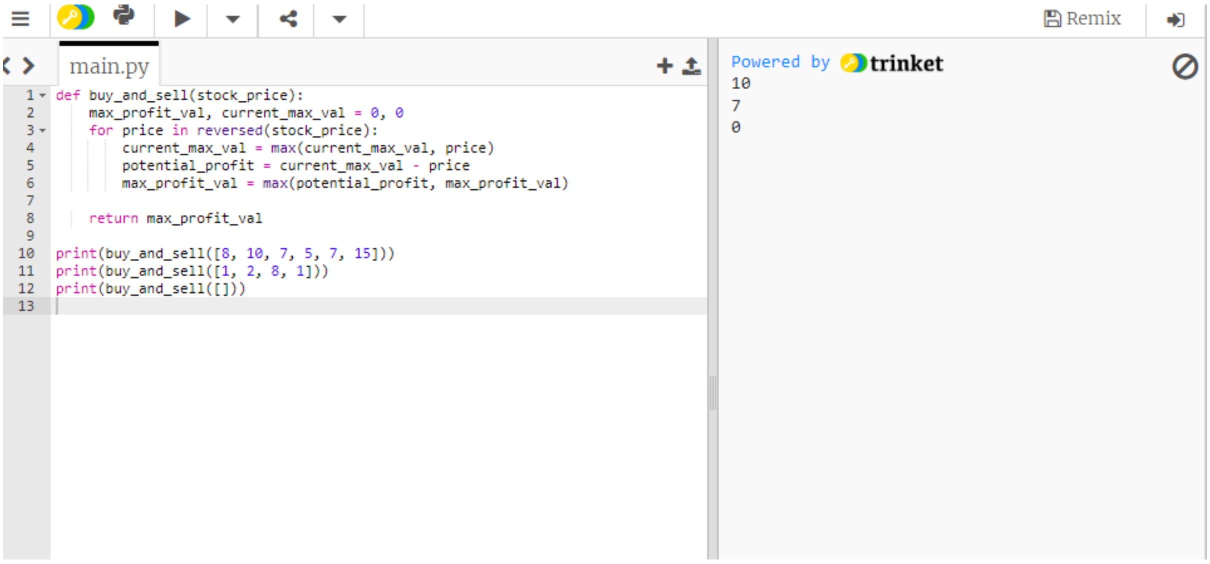
Write a Python program to calculate the maximum profit from selling and buying values of stock. An array of numbers represent the stock prices in chronological order.

**Solution:**

```
def buy_and_sell(stock_price):

   max_profit_val, current_max_val = 0, 0
```

```
    for price in reversed(stock_price):
        current_max_val = max(current_max_val, price)
        potential_profit = current_max_val - price
        max_profit_val = max(potential_profit, max_profit_val)

    return max_profit_val

print(buy_and_sell([8, 10, 7, 5, 7, 15]))
print(buy_and_sell([1, 2, 8, 1]))
print(buy_and_sell([]))
```

**Output:**



```
def buy_and_sell(stock_price):
    max_profit_val, current_max_val = 0, 0
    for price in reversed(stock_price):
        current_max_val = max(current_max_val, price)
        potential_profit = current_max_val - price
        max_profit_val = max(potential_profit, max_profit_val)

    return max_profit_val

print(buy_and_sell([8, 10, 7, 5, 7, 15]))
print(buy_and_sell([1, 2, 8, 1]))
print(buy_and_sell([]))
```

```
10
7
0
```

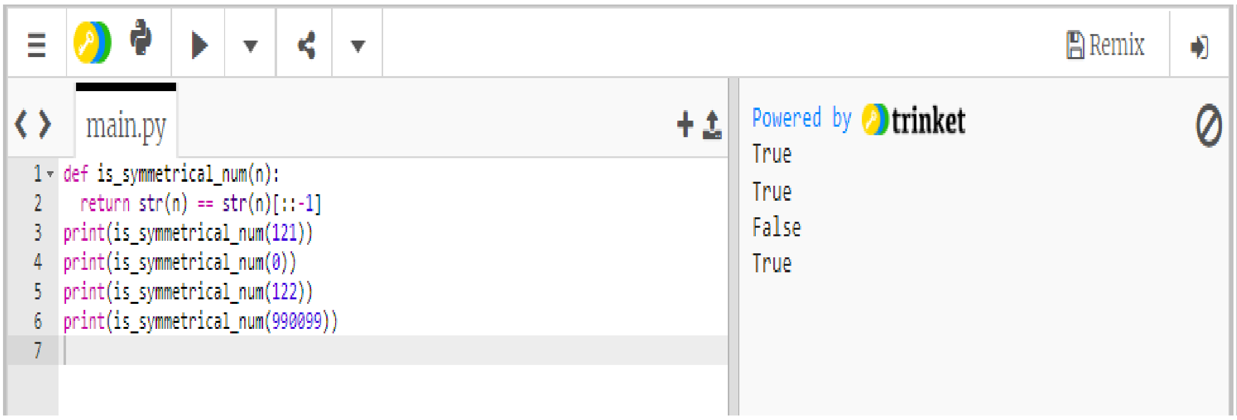
## Question-4

Write a Python program to test whether a given number is symmetrical or not. A number is symmetrical when it is equal of its reverse.

**Solution:**

```
def is_symmetrical_num(n):
  return str(n) == str(n)[::-1]
print(is_symmetrical_num(121))
print(is_symmetrical_num(0))
print(is_symmetrical_num(122))
print(is_symmetrical_num(990099))
```

**Output:**



```
def is_symmetrical_num(n):
  return str(n) == str(n)[::-1]
print(is_symmetrical_num(121))
print(is_symmetrical_num(0))
print(is_symmetrical_num(122))
print(is_symmetrical_num(990099))
```

```
True
True
False
True
```

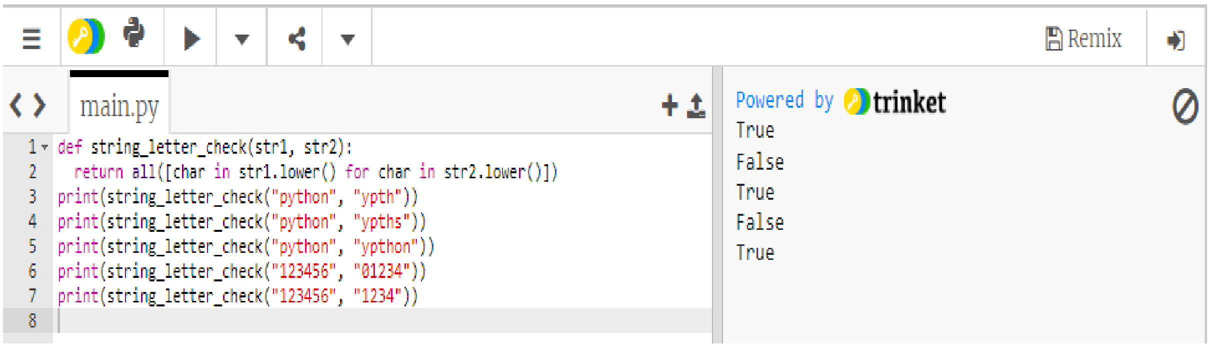
**Question-5**

Write a Python program that accept two strings and test if the letters in the second string are present in the first string.

**Solution:**

```
def string_letter_check(str1, str2):
  return all([char in str1.lower() for char in str2.lower()])
print(string_letter_check("python", "ypth"))
print(string_letter_check("python", "ypths"))
print(string_letter_check("python", "ypthon"))
print(string_letter_check("123456", "01234"))
print(string_letter_check("123456", "1234"))
```

**Output:**



```
def string_letter_check(str1, str2):
  return all([char in str1.lower() for char in str2.lower()])
print(string_letter_check("python", "ypth"))
print(string_letter_check("python", "ypths"))
print(string_letter_check("python", "ypthon"))
print(string_letter_check("123456", "01234"))
print(string_letter_check("123456", "1234"))
```

```
True
False
True
False
True
```