

IT WORKSHOP LAB

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A1. Write a program to find the value of the function :

$F(x) = 3x^2 + 5$ if $x \leq 10$

$= 5x$ if $x > 10$ and $x \leq 20$

$= 2x^2 - x + 9$ if $x > 20$

Input value of x.

```
def f(x):  
    if x <= 10:  
        return (3*x*x)+5  
    elif x > 10 and x <= 20:  
        return 5*x  
    elif x > 20:  
        return (2*x*x)-x+9  
  
x = int(input("Enter value of x: "))  
print(f(x))
```

```
PS C:\Users\hello\Desktop\HelloArgha\SEM3\PYTHON> python -u "c:\Users\hello\Desktop\HelloArgha\SEM3\PYTHON\A1\1.py"  
Enter value of x: 2  
17  
PS C:\Users\hello\Desktop\HelloArgha\SEM3\PYTHON> █
```

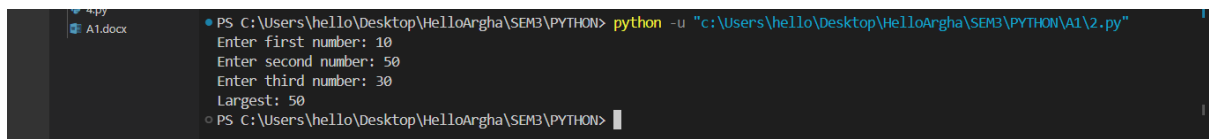
A 2. Write a program to find the largest no among three numbers using nested if else statement.

```
n1 = int(input("Enter first number: "))
n2 = int(input("Enter second number: "))
n3 = int(input("Enter third number: "))

largest = 0

if n1 > n2 and n1 > n3:
    largest = n1
elif n2 > n1 and n2 > n3:
    largest = n2
else:
    largest = n3

print("Largest:", largest)
```



The screenshot shows a Windows command prompt window. The user has run the command `python -u "c:\Users\hello\Desktop\HelloArgha\SEM3\PYTHON\A1\2.py"`. The program prompts for three numbers: "Enter first number: 10", "Enter second number: 50", and "Enter third number: 30". It then outputs "Largest: 50". The command prompt path is `PS C:\Users\hello\Desktop\HelloArgha\SEM3\PYTHON>`.

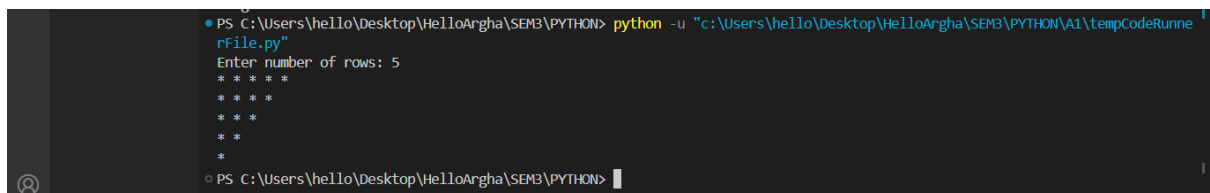
A3. Write a program to print the following pattern, input number of lines.

**

*

```
r = int(input("Enter number of rows: "))

for i in range(r):
    for j in range(r-i):
        print("* ", end="")
    print("\n")
```



```
PS C:\Users\hello\Desktop\HelloArgha\SEM3\PYTHON> python -u "c:\Users\hello\Desktop\HelloArgha\SEM3\PYTHON\AI\tempCodeRunne
rFile.py"
Enter number of rows: 5
* * * * *
* * * *
* * *
* *
*
*
PS C:\Users\hello\Desktop\HelloArgha\SEM3\PYTHON>
```

A4. Take a sentence as input and print the words in dictionary order.

Take a sentence as input and print the words in dictionary order along with number of vowels in the word;

[Sample:

INPUT:

Python Jupiter Spyder

OUTPUT:

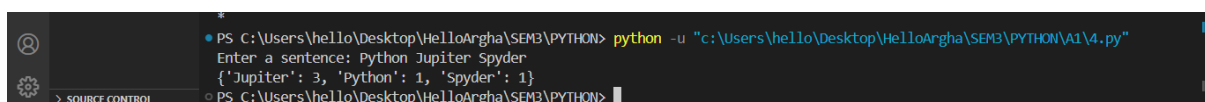
Jupiter,3

Python,1

Spyder,1

]

```
def count_vowels(word):  
    vowels = "aeiouAEIOU"  
    return sum(1 for char in word if char in vowels)  
  
s = input("Enter a sentence: ")  
w = s.split()  
sorted_w = sorted(w)  
dict = {}  
for word in sorted_w:  
    num_vowels = count_vowels(word)  
    dict[word] = num_vowels  
print(dict)
```



```
PS C:\Users\hello\Desktop\HelloArgha\SEM3\PYTHON> python -u "c:\Users\hello\Desktop\HelloArgha\SEM3\PYTHON\A1\4.py"  
Enter a sentence: Python Jupiter Spyder  
{'Jupiter': 3, 'Python': 1, 'Spyder': 1}  
PS C:\Users\hello\Desktop\HelloArgha\SEM3\PYTHON>
```