

Uploaded by youtube.com/c/getpythoncode  
 Contact me at telegram , telegram id-@AK4Gp or  
 mail me at amazonking616@gmail.com



(<https://swayam.gov.in>)



([https://swayam.gov.in/nc\\_details/NPTEL](https://swayam.gov.in/nc_details/NPTEL))

amazonking616@gmail.com ▾

NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » The Joy of Computing using Python (course)



If already registered, click to check your payment status

Course outline

About NPTEL ()

How does an NPTEL online course work? ()

Week 0 ()

Week 1 ()

• Introduction to Programming (unit?  
unit=17&lesson=n=18)

• Why Programming? (unit?  
unit=17&lesson=n=19)

• Programming for Everybody

# Week 1 : Assignment 1

The due date for submitting this assignment has passed.

Due on 2024-02-07, 23:59 IST.

Assignment submitted on 2024-01-18, 23:10 IST

1) Which of the following best defines a variable in programming? 1 point

- A constant value that cannot be changed during program execution.
- A named storage location that can hold varying data during program execution.
- An operation that performs arithmetic calculations on data.
- A reserved word is used to define a function or method in a program.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*A named storage location that can hold varying data during program execution.*

2) Humans easily get bored doing a repetitive job. However, computers are masters of **1 point** iteration. In programming, we get a control structure that allows a set of instructions to be executed repeatedly based on a condition. It enables automating repetitive tasks by iterating through a block of code until a specific condition is met or for a defined number of times. What is this control structure called?

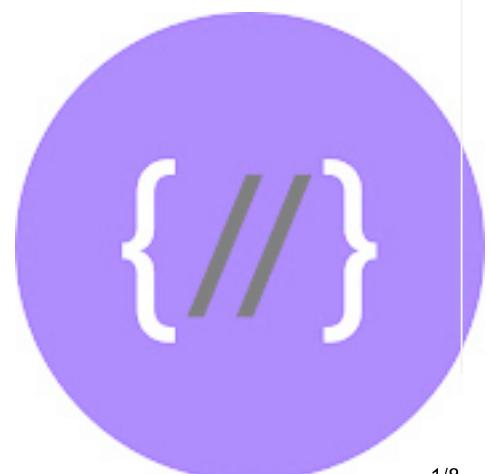
- Variable
- Operator
- Loop
- Data Type

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Loop*



(unit?  
unit=17&lesso  
n=20)

● Any  
Prerequisites?  
(unit?  
unit=17&lesso  
n=21)

● Where to  
start? (unit?  
unit=17&lesso  
n=22)

● Why do we  
have so many  
languages?  
(unit?  
unit=17&lesso  
n=23)

● How to go  
about  
programming?  
(unit?  
unit=17&lesso  
n=24)

● Why to learn  
programming?  
(unit?  
unit=17&lesso  
n=25)

● What is  
programming?  
(unit?  
unit=17&lesso  
n=26)

● How to give  
instructions?  
(unit?  
unit=17&lesso  
n=27)

● Introduction to  
Scratch (unit?  
unit=17&lesso  
n=28)

● Introduction to  
Loops (unit?  
unit=17&lesso  
n=29)

● More about  
Loops (unit?

3) Programming logic is different from programming language. Programming languages are many, but programming logic almost remains the same across all programming languages. Which of the following is programming logic? **1 point**

- Python
- C
- C++
- None of the above

Yes, the answer is correct.

Score: 1

Accepted Answers:

*None of the above*

4) Open-source software, unlike proprietary software, is computer software developed **1 point** through public, collaborative efforts and made freely available to the public. Which of the following programming languages is/are open source?

- Java
- Python
- FORTRAN
- Perl

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Java*

*Python*

*FORTRAN*

*Perl*

5) Knowing how to write a piece of code could help us get things done fast. Choose **1 point** the areas where we can implement coding.?

- Physics
- Mathematics
- Economics
- Small Scale Business

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Physics*

*Mathematics*

*Economics*

*Small Scale Business*

#### Problem Introduction:

The provided image depicts a scene from a presentation featuring The Famous Cat at Scratch attempting to play football with a Boomerang ball disguised as a volleyball. The unexpected



unit=17&lesso  
n=30)

● Solution to  
Looping  
Problem (unit?  
unit=17&lesso  
n=31)

○ Scratch :  
Animation 1  
(unit?  
unit=17&lesso  
n=32)

○ Scratch :  
Animation 2  
(unit?  
unit=17&lesso  
n=33)

○ Scratch :  
Animation 3  
(unit?  
unit=17&lesso  
n=34)

○ More on  
Scratch (unit?  
unit=17&lesso  
n=35)

● Quiz: Week 1  
: Assignment  
1  
(assessment?  
name=386)

○ Week 1  
Feedback  
Form: The Joy  
of Computing  
using Python  
(unit?  
unit=17&lesso  
n=36)

**Week 2 ()**

**Week 3 ()**

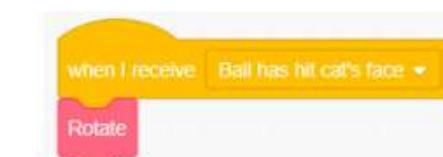
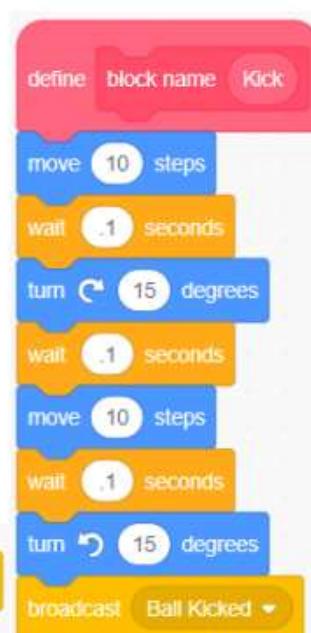
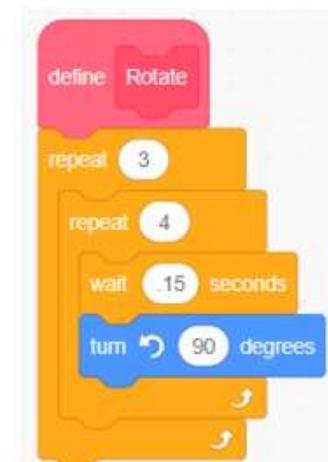
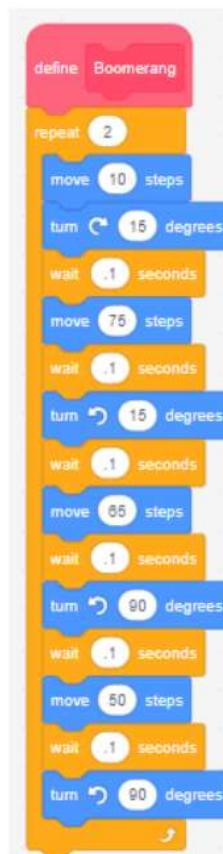
**week 4 ()**

**Week 5 ()**

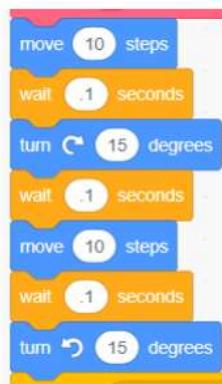
**Week 6 ()**

return of the ball leads to a humorous outcome.

Accompanying is the set of code blocks that achieve what is stated above [Not necessarily in sequence of execution]. Answer the questions that follow:



- 6) The block of code displayed here is meant for the cat, what is the functionality of this code? 0 points

[Week 7 \(\)](#)[Week 8 \(\)](#)[Week 9 \(\)](#)[Week 10 \(\)](#)[Week 11 \(\)](#)[Week 12 \(\)](#)[Text](#)[Transcripts \(\)](#)[Download Videos \(\)](#)[Books \(\)](#)[Problem Solving Session - Jan 2024 \(\)](#)

- It brings the ball closer to the cat.
- It makes the cat appear like kicking the ball.
- It makes the cat tumble and rotate
- The code throws an error.

No, the answer is incorrect.

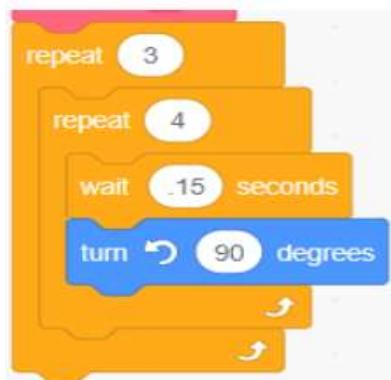
Score: 0

Accepted Answers:

*It brings the ball closer to the cat.*

- 7) The block of code displayed here makes the cat rotate out of impact from the boomeranging ball, how many complete rotations does the cat make?

**1 point**



- One
- Two
- Three
- Four

Yes, the answer is correct.

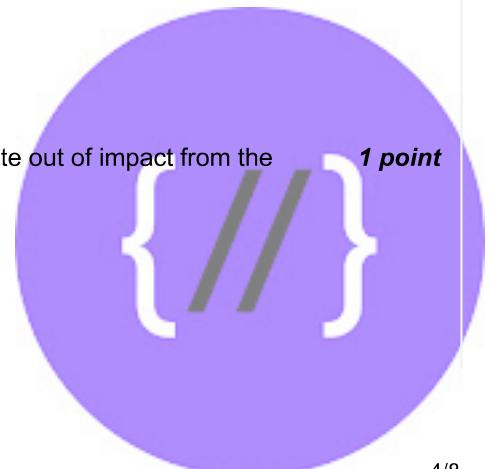
Score: 1

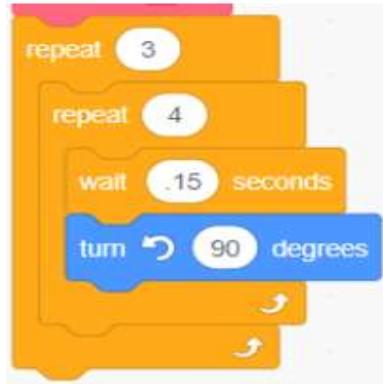
Accepted Answers:

*Three*

- 8) The block of code displayed here makes the cat rotate out of impact from the boomeranging ball, how many loops are there in total?

**1 point**





- One
- Two
- Three
- Four

Yes, the answer is correct.

Score: 1

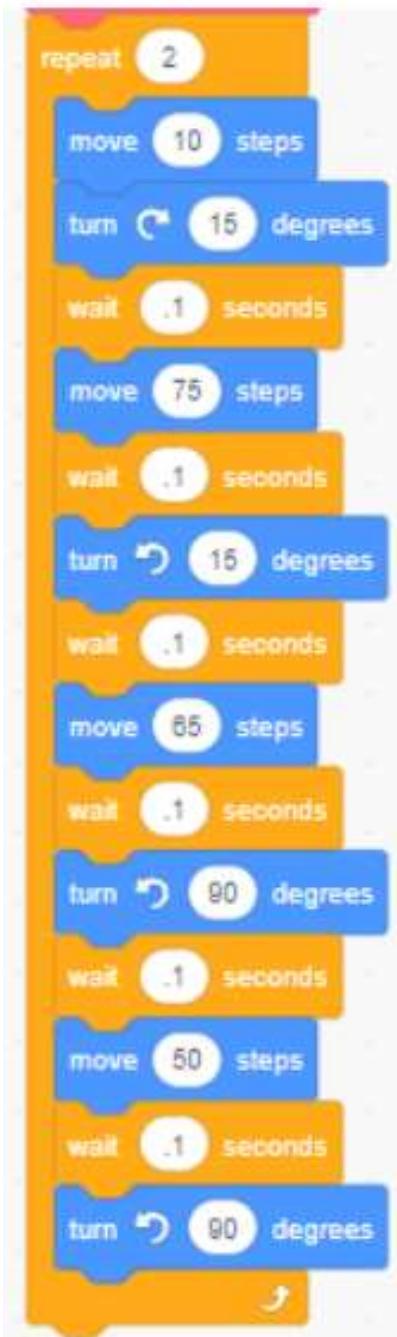
Accepted Answers:

*Two*

9) The block of code displayed here is meant for the ball, how many loops are there in **1 point** total?

{ // }

A large purple circular icon containing a white curly brace symbol, used as a decorative element or button.



- One
- Two
- Three
- Four

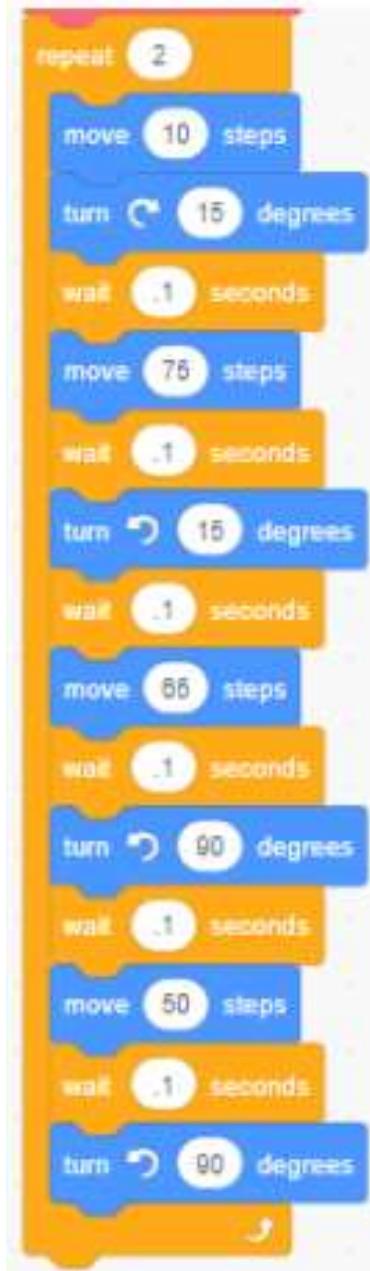
Yes, the answer is correct.  
Score: 1

Accepted Answers:  
*One*

10) The block of code displayed here is meant for the ball, if the value beside repeat would have been 1 instead of 2, Select all the statements that explain the situation.

1 point





- The Ball would not have returned to Cat.
- Removing the loop from the code would have made no difference in the result.
- The Ball would not have left its original position.
- The code would throw an error

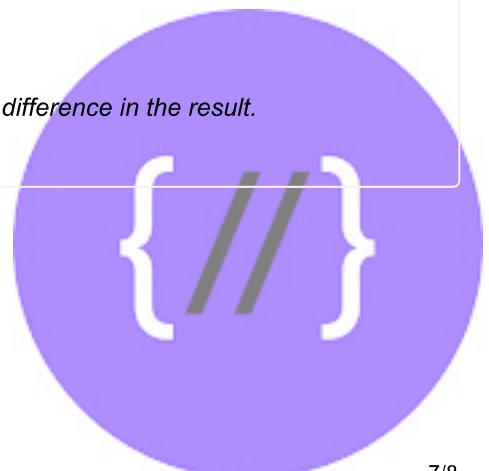
Yes, the answer is correct.

Score: 1

Accepted Answers:

*The Ball would not have returned to Cat.*

*Removing the loop from the code would have made no difference in the result.*



{//}

X



(https://swayam.gov.in)



(https://swayam.gov.in/nc\_details/NPTEL)

amazonking616@gmail.com ▾

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » The Joy of Computing using Python (course)

≡

If already registered, click to check your payment status

## Week 2 : Assignment

The due date for submitting this assignment has passed.

**Due on 2024-02-07, 23:59 IST.**

### Course outline

**About**  
NPTEL ()

**How does an NPTEL online course work? ()**

**Week 0 ()**

**Week 1 ()**

**Week 2 ()**

● Introduction to Anaconda (unit? unit=37&lesso n=38)

● Installation of Anaconda (unit? unit=37&lesso n=39)

### Assignment submitted on 2024-02-07, 10:07 IST

1) At any given point during a program's execution, what value is held within a variable?

**1 point**

- The value it was initially assigned when it was created.
- The sum of all values that have ever been assigned to it.
- The most recent value that was assigned to it.
- The average of all values that have ever been assigned to it.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*The most recent value that was assigned to it.*

2) What will be the output of the following Python code snippet?

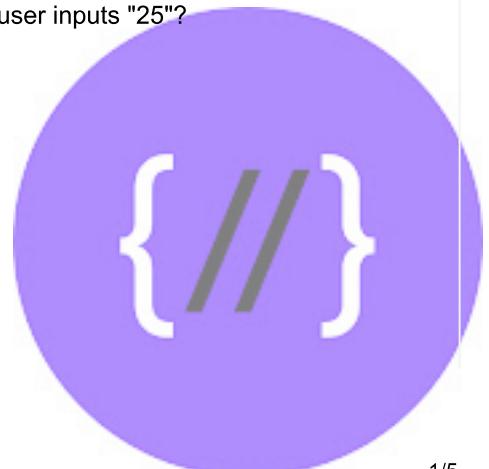
**1 point**

```
a = 'The value is: '
b = input('Enter a value: ')
c = a + b
print(c)
```

Which of the following represents the correct output if the user inputs "25"?

- The value is: 25
- 25
- The value is:
- None of the above

Yes, the answer is correct.



Introduction to Spyder IDE (unit? unit=37&lesso n=40)

Printing statements in Python (unit? unit=37&lesso n=41)

Understanding Variables in Python (unit? unit=37&lesso n=42)

Executing a sequence of instructions in the Console (unit? unit=37&lesso n=43)

Writing your First Program (unit? unit=37&lesso n=44)

Taking inputs from the user (unit? unit=37&lesso n=45)

Discount Calculation (unit? unit=37&lesso n=46)

Motivation to if condition (unit? unit=37&lesso n=47)

A reminder on how to deal with numbers (unit? unit=37&lesso n=48)

Understanding if condition's working (unit?)

Score: 1

Accepted Answers:

*The value is: 25*

3) What are the possible loop values that can be specified in the range argument of a **1 point** for loop in Python, and why are these values used?

- Integers, representing the starting and ending points of the loop, allowing iteration through a specified range of numbers.
- Floating-point numbers, enabling iteration through decimal ranges with precise steps.
- Strings, facilitating iteration through characters in a specified string
- Tuples, allowing iteration through multiple sequences simultaneously.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Integers, representing the starting and ending points of the loop, allowing iteration through a specified range of numbers.*

4) What values can be used in the argument of a while loop in Python, and why are **1 point** these values used?

- Integers, representing the starting and ending points of the loop, allowing iteration through a specified range of numbers
- Boolean expressions or conditions, enabling the loop to execute until the condition becomes False.
- Floating-point numbers, allowing iteration through decimal ranges with precise steps.
- Strings, facilitating iteration through characters in a specified string.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Boolean expressions or conditions, enabling the loop to execute until the condition becomes False.*

5) What types of conditional entries can be used in a Python if statement, and why are **1 point** these entries used?

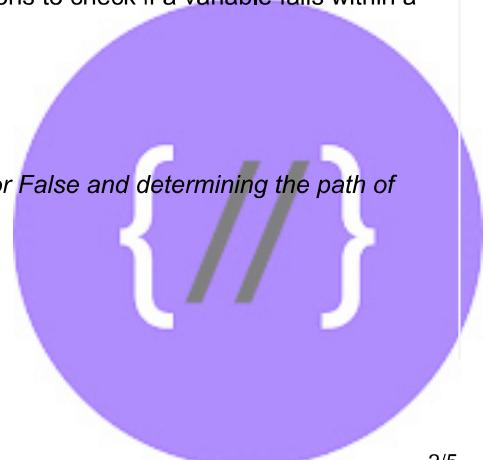
- Integers, representing specific numeric values to check against a variable, ensuring a match for equality
- Boolean expressions or conditions, evaluating to True or False and determining the path of execution in the code.
- Strings, enabling comparison of text values for exact matches in the condition
- Floating-point numbers, allow range-based conditions to check if a variable falls within a specific numerical range.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Boolean expressions or conditions, evaluating to True or False and determining the path of execution in the code.*



unit=37&lesso  
n=49)

Realizing the importance of syntax and indentation (unit?)  
unit=37&lesso  
n=50)

Introductions to loops (unit?)  
unit=37&lesso  
n=51)

Loops: Sum of numbers (unit?)  
unit=37&lesso  
n=52)

Loops: Sum of numbers (continued) (unit?)  
unit=37&lesso  
n=53)

Loops: Multiplication Tables (unit?)  
unit=37&lesso  
n=54)

Introduction to While Loop (unit?)  
unit=37&lesso  
n=55)

Week 2 Feedback Form: The Joy of Computing using Python (unit?)  
unit=37&lesso  
n=56)

**Quiz: Week 2 : Assignment (assessment? name=387)**

1.  
Programming Assignment | Week 2 (/noc24\_cs57/)

6) Consider the following code snippet:

**1 point**

```
n = int(input("Enter a number: "))

for i in range(1, 11):

    print(n, 'x', i, '=', n * i)
```

What does the code do?

- Takes an input **n**, computes the multiplication table of **n** from **1** to **10**, and prints each multiplication.
- Takes an input **n**, computes the multiplication table of **n** from **1** to **11**, and prints the final product.
- Takes an input **n**, computes the multiplication table of **n** from **1** to **10**, and prints the final product.
- Takes an input **n**, initializes **i** to **1**, and prints the multiplication of **n** and **i** without any loop.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Takes an input **n**, computes the multiplication table of **n** from **1** to **10**, and prints each multiplication.*

7) Consider the following code snippet:

**0 points**

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

i = 1

while i <= 10:

    print(number, 'x', i, '=', number * i)

    i += 1
```

What does the code do?

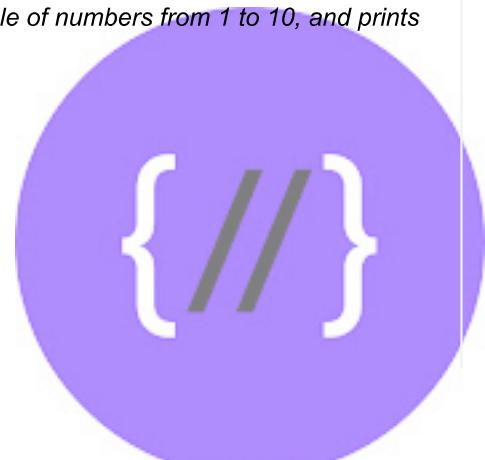
- Takes an input number, computes the multiplication table of numbers from 1 to 10, and prints each multiplication
- Takes an input number, computes the multiplication table of numbers from 1 to 11, and prints the final product.
- Takes an input number, computes the multiplication table of numbers from 1 to 10, and prints the final product.
- Takes an input number, initializes **i** to 1, and prints the multiplication of number and **i** without any loop.

Yes, the answer is correct.

Score: 0

Accepted Answers:

*Takes an input number, computes the multiplication table of numbers from 1 to 10, and prints each multiplication*



progassignme  
nt?name=393)

2.  
Programming  
Assignment |  
Week 2  
(/noc24\_cs57/  
progassignme  
nt?name=394)

3.  
Programming  
Assignment |  
Week 2  
(/noc24\_cs57/  
progassignme  
nt?name=395)

**Week 3 ()**

**week 4 ()**

**Week 5 ()**

**Week 6 ()**

**Week 7 ()**

**Week 8 ()**

**Week 9 ()**

**Week 10 ()**

**Week 11 ()**

**Week 12 ()**

**Text  
Transcripts ()**

**Download  
Videos ()**

**Books ()**

**Problem  
Solving  
Session -  
Jan 2024 ()**

8) Consider the following code snippet:

```
num = int(input("Enter a number: "))
result = 1
counter = 1

while counter <= num:
    result *= counter
    counter += 1

print("Factorial of", num, "is:", result)
```

**1 point**

What does the code do?

- Takes an input **num**, computes the factorial of **num**, and prints the factorial value.
- Takes an input **num**, computes the product of numbers from **1** to **num**, and prints the final product.
- Takes an input **num**, computes the sum of numbers from **1** to **num**, and prints the final sum.
- Takes an input **num**, initializes the result to **1**, and prints the value of the result without any factorial computation.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Takes an input num, computes the factorial of num, and prints the factorial value.*

*Takes an input num, computes the product of numbers from 1 to num, and prints the final product.*

9) An Integrated Development Environment (IDE) is a software application that **0 points** provides comprehensive facilities to computer programmers for software development. Which of the following are IDEs?

- PyCharm
- Spyder
- Visual Studio Code (VS Code)
- C# (pronounced "C sharp")

Partially Correct.

Score: 0

Accepted Answers:

*PyCharm*

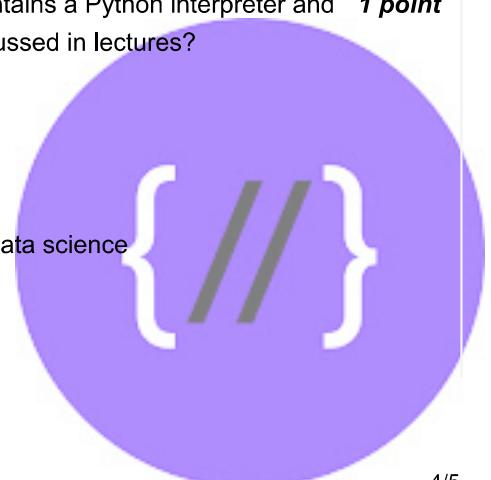
*Spyder*

*Visual Studio Code (VS Code)*

10) A Python distribution is a software bundle, which contains a Python interpreter and **1 point** the Python standard library. What is Anaconda being discussed in lectures?

- A species of snake
- A type of programming language
- An integrated development environment (IDE)
- A Python distribution for scientific computing and data science

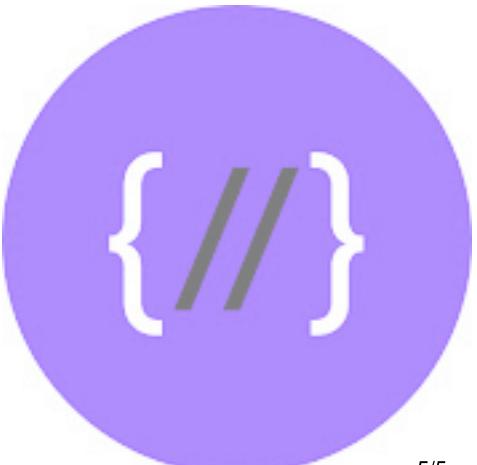
Yes, the answer is correct.



Score: 1

Accepted Answers:

*A Python distribution for scientific computing and data science*

A large purple circular icon containing a white double-slash symbol (//) and a grey double-slash symbol (//).

{ // }

X



(https://swayam.gov.in)



(https://swayam.gov.in/nc\_details/NPTEL)

amazonking616@gmail.com ▾

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » The Joy of Computing using Python (course)

≡

If already registered, click to check your payment status

## Week 3 : Assignment 3

The due date for submitting this assignment has passed.

**Due on 2024-02-14, 23:59 IST.**

Course outline

About NPTEL ()

How does an NPTEL online course work? ()

Week 0 ()

Week 1 ()

Week 2 ()

Week 3 ()

Lists Part 1 : Introduction (unit?  
unit=57&lesso  
n=58)

Lists Part 2 : Manipulation (unit?)

**Assignment submitted on 2024-02-12, 22:34 IST**

1) Consider the following code snippet:

**1 point**

```
elements = []
n = int(input("Enter the number of elements: "))
for i in range(n):
    item = input("Enter element " + str(i + 1) + ": ")
    elements.append(item)
print("The entered elements are:", elements)
```

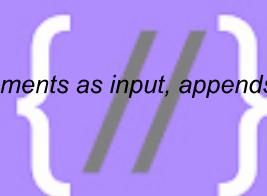
What does the code do?

- Takes a list of numbers as input, appends each number to a list, and prints the list of numbers
- Takes a list of elements as input, appends each element to a list, and prints the list of elements
- Takes the count of elements followed by the same number of elements as input, appends each element to a list, and prints the list of elements
- Takes the count of elements, appends each element to a list, and prints the count of elements entered.

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*Takes the count of elements followed by the same number of elements as input, appends each element to a list, and prints the list of elements*



unit=57&lesso  
n=59)

Lists Part 3 :  
Operations  
(unit?  
unit=57&lesso  
n=60)

Lists Part 4 :  
Slicing (unit?  
unit=57&lesso  
n=61)

Loops and  
Conditionals :  
Fizzbuzz 01  
(unit?  
unit=57&lesso  
n=62)

Loops and  
Conditionals :  
Fizzbuzz 02  
(unit?  
unit=57&lesso  
n=63)

Crowd  
Computing -  
Just estimate  
01 (unit?  
unit=57&lesso  
n=64)

Crowd  
Computing -  
Just estimate  
02 (unit?  
unit=57&lesso  
n=65)

Crowd  
Computing -  
Just estimate  
03 (unit?  
unit=57&lesso  
n=66)

Crowd  
Computing -  
Just estimate  
04 (unit?  
unit=57&lesso  
n=67)

Crowd  
Computing -  
Just estimate  
05 (unit?)

2) Data Structure is a way by which you can organize/arrange your data. Which of the **1 point** following statements are true about List Data Structure: [MSQ]

- It is a flexible Data Structure
- Elements could be added to a list.
- Elements could be subtracted from a list.
- This\_is\_not\_List = []** is an empty list

Yes, the answer is correct.

Score: 1

Accepted Answers:

*It is a flexible Data Structure*

*Elements could be added to a list.*

*Elements could be subtracted from a list.*

***This\_is\_not\_List = []*** *is an empty list*

3) Consider the following code snippet: **1 point**

```
L = ['Amar', 'Akbar', 'Anthony']
print(L[2], 'is brother of', L[1], 'and', L[0])
```

What does the above code print?

- Amar, Akbar, Anthony
- amar is brother of anthony and akbar
- Amar is brother of Anthony and Akbar
- Anthony is brother of Akbar and Amar

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Anthony is brother of Akbar and Amar*

4) Consider the following code snippet: **1 point**

```
numbers = [2, 4, 6, 8, 10]
for i in range(len(numbers)):
    numbers[i] *= 2
print("Updated list:", numbers)
```

What does the code do?

- Takes a list of numbers, multiplies each number by 2, and prints the updated list
- Takes a list of numbers, appends each number to the list twice, and prints the updated list
- Takes a list of numbers, removes even numbers from the list, and prints the updated list
- Takes a list of numbers, divides each number by 2, and prints the updated list

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Takes a list of numbers, multiplies each number by 2, and prints the updated list*

unit=57&lesso  
n=68)

Crowd  
Computing -  
Just estimate  
06 (unit?  
unit=57&lesso  
n=69)

Permutations -  
Jumbled  
Words 01  
(unit?  
unit=57&lesso  
n=70)

Permutations -  
Jumbled  
Words 02  
(unit?  
unit=57&lesso  
n=71)

Permutations -  
Jumbled  
Words 03  
(unit?  
unit=57&lesso  
n=72)

Theory of  
Evolution 01  
(unit?  
unit=57&lesso  
n=73)

Theory of  
Evolution 02  
(unit?  
unit=57&lesso  
n=74)

Theory of  
Evolution 03  
(unit?  
unit=57&lesso  
n=75)

Theory of  
Evolution 04  
(unit?  
unit=57&lesso  
n=76)

Week 3  
Feedback  
Form: The Joy  
of Computing  
using Python

5) What will be the output of the following Python code?

1 point

```
import random
def genetic_evolution(binary_string):
    mutation_probability = 0.1 # Adjust this probability as needed
    evolved_string = ""
    for bit in binary_string:
        if random.random() < mutation_probability:
            evolved_string += "1" if bit == "0" else "0"
        else:
            evolved_string += bit
    return evolved_string
initial_string = "0000000000"
result = genetic_evolution(initial_string)
print(result)
```

- "1111111111"
- "0000000000"
- A string with some 1s and some 0s
- The function will raise an error

Yes, the answer is correct.

Score: 1

Accepted Answers:

*A string with some 1s and some 0s*

6) Consider the following code snippet:

0 points

```
numbers = []
n = int(input("Enter the number of elements: "))
for i in range(n):
    num = int(input("Enter number " + str(i + 1) + ": "))
    numbers.append(num)
result = sum(numbers)
average = result / n
print("Sum of the numbers:", result)
print("Average of the numbers:", average)
```

What does the code do?

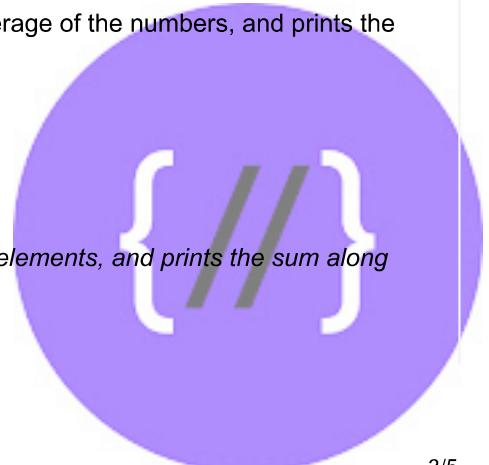
- Takes a list of numbers as input, computes the sum of the numbers, and prints the sum along with the average
- Takes the count of elements, computes the sum of the elements, and prints the sum along with the average
- Takes a list of numbers as input, computes the average of the numbers, and prints the average along with the sum
- None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

*Takes the count of elements, computes the sum of the elements, and prints the sum along with the average*



```
(unit?
unit=57&lesso
n=77)
```

● Quiz: Week 3  
: Assignment  
3  
(assessment?  
name=396)

---

● 1.  
Programming  
Assignment |  
Week 3  
(/noc24\_cs57/  
progassignme  
nt?name=397)

● 2.  
Programming  
Assignment |  
Week 3  
(/noc24\_cs57/  
progassignme  
nt?name=398)

● 3.  
Programming  
Assignment |  
Week 3  
(/noc24\_cs57/  
progassignme  
nt?name=399)

**week 4 ()**

---

**Week 5 ()**

---

**Week 6 ()**

---

**Week 7 ()**

---

**Week 8 ()**

---

**Week 9 ()**

---

**Week 10 ()**

---

**Week 11 ()**

---

**Week 12 ()**

---

**Text  
Transcripts ()**

---

7) What will be the output of the following Python code?

**1 point**

```
import random
def permutation_example(word):
    word_list = list(word)
    random.shuffle(word_list)
    shuffled_word = ''.join(word_list)
    return shuffled_word
input_word = "python"
result = permutation_example(input_word)
print(result)
```

- "Python"
- A random permutation of the letters in "python"
- "random"
- The function will raise an error

Yes, the answer is correct.

Score: 1

Accepted Answers:

*A random permutation of the letters in "python"*

8) Consider the following code snippet:

**1 point**

```
numbers = [1, 2, 3, 4, 5]
new_numbers = []
for num in numbers:
    new_numbers.insert(0, num) #insert() is a function that inserts a value
at a given index
print("Updated list:", new_numbers)
```

What does the code do? [MSQ]

- Reverses the numbers list and stores it in new\_numbers.
- Creates an empty list named new\_numbers and appends elements from numbers to it in reverse order.
- Produces an error due to an invalid function used for list manipulation.
- Generates a new list new\_numbers with elements from numbers in the same order as numbers.

Partially Correct.

Score: 0.5

Accepted Answers:

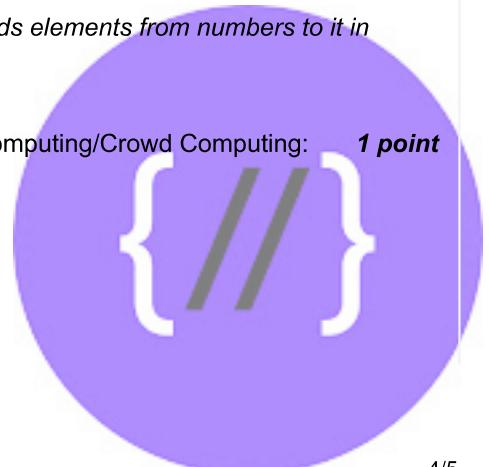
*Reverses the numbers list and stores it in new\_numbers.*

*Creates an empty list named new\_numbers and appends elements from numbers to it in reverse order.*

9) Which of the following are the examples of Social Computing/Crowd Computing:  
[MSQ]

**1 point**

- Wikipedia
- Stack Exchange
- Quora



[Download](#)[Videos \(\)](#)[Books \(\)](#)[Problem Solving Session - Jan 2024 \(\)](#) Facebook

Yes, the answer is correct.

Score: 1

Accepted Answers:

[Wikipedia](#)[Stack Exchange](#)[Quora](#)[Facebook](#)

10) Consider the following code snippet:

**0 points**

```
for i in range(1, 21):
    if i % 3 == 0 and i % 5 == 0:
        print("FizzBuzz")
    elif i % 3 == 0:
        print("Fizz")
    elif i % 5 == 0:
        print("Buzz")
    else:
        print(i)
```

What does the code do?

- Prints numbers from 1 to 20, replacing multiples of 3 with "Fizz", multiples of 5 with "Buzz", and multiples of both 3 and 5 with "FizzBuzz".
- Prints numbers from 1 to 20, replacing multiples of 3 and 5 with "FizzBuzz", multiples of 3 with "Fizz", and multiples of 5 with "Buzz".
- Prints numbers from 1 to 20, replacing multiples of 3 with "Fizz", multiples of 5 with "Buzz", and numbers divisible by both 3 and 5 with their product.
- Prints numbers from 1 to 20, replacing multiples of 3 with "Buzz", multiples of 5 with "Fizz", and numbers divisible by both 3 and 5 with "FizzBuzz".

No, the answer is incorrect.

Score: 0

Accepted Answers:

*Prints numbers from 1 to 20, replacing multiples of 3 with "Fizz", multiples of 5 with "Buzz", and multiples of both 3 and 5 with "FizzBuzz".*

X



(https://swayam.gov.in)



(https://swayam.gov.in/nc\_details/NPTEL)

amazonking616@gmail.com ▾

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » The Joy of Computing using Python (course)

≡

If already registered, click to check your payment status

## Week 4 : Assignment 4

The due date for submitting this assignment has passed.

**Due on 2024-02-21, 23:59 IST.**

Course outline

About  
NPTEL ()

How does an  
NPTEL  
online  
course  
work? ()

Week 0 ()

Week 1 ()

Week 2 ()

Week 3 ()

week 4 ()

Practice is the key (unit?  
unit=78&lesso  
n=79)

Magic Square:  
Hit and Trial 01

Assignment submitted on 2024-02-14, 18:02 IST

1) Select the correct statements regarding Magic Square: 1 point

- Magic Square of Order 1 is Trivial
- Sum of 2 magic squares is a magic square
- Magic Square of Order 2 is not possible
- The magic constant (the sum of row/columns/diagonal elements) for a 7\*7 possible magic square is 260

Yes, the answer is correct.

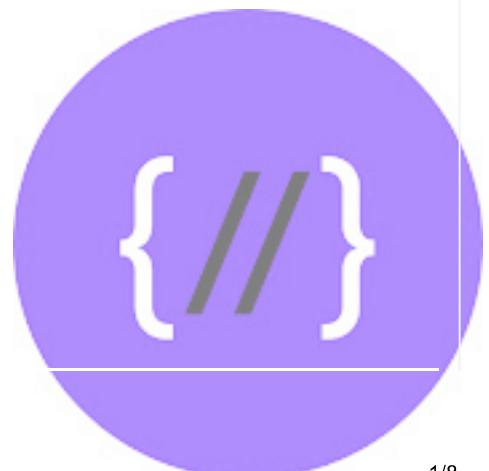
Score: 1

Accepted Answers:

*Magic Square of Order 1 is Trivial*

*Magic Square of Order 2 is not possible*

2) For which of the matrices would the following code snippet return True? 1 point



(unit?  
unit=78&lesso  
n=80)

○ Magic Square:  
Hit and Trial 02  
(unit?  
unit=78&lesso  
n=81)

○ Magic Square:  
Hit and Trial 03  
(unit?  
unit=78&lesso  
n=82)

○ Magic Square:  
Hit and Trial 04  
(unit?  
unit=78&lesso  
n=83)

○ Magic Square:  
Hit and Trial 05  
(unit?  
unit=78&lesso  
n=84)

○ Let's program  
and play (unit?  
unit=78&lesso  
n=85)

○ Dobble Game  
- Spot the  
similarity 01  
(unit?  
unit=78&lesso  
n=86)

○ Dobble Game  
- Spot the  
similarity 02  
(unit?  
unit=78&lesso  
n=87)

○ Dobble Game  
- Spot the  
similarity 03  
(unit?  
unit=78&lesso  
n=88)

○ Dobble Game  
- Spot the  
similarity 04  
(unit?  
unit=78&lesso  
n=89)

```
def does_something(matrix):
    r = len(matrix)
    if r == 0 or r != len(matrix[0]):
        return False
    expected = sum(matrix[0])

    for row in matrix:
        if sum(row) != expected:
            return False
    for j in range(r):
        if sum(matrix[i][j] for i in range(r)) != expected:
            return False
        if sum(matrix[i][r - 1 - i] for i in range(r)) != expected:
            return False

    return True
```

8 1 6

3 5 7

4 9 2

2 9 4

7 5 3

6 1 8

6 1 8

7 5 3

2 9 4

2 7 6

9 5 1

4 3 8

Yes, the answer is correct.

Score: 1

Accepted Answers:

8 1 6

3 5 7

4 9 2

2 9 4

7 5 3

6 1 8

6 1 8

7 5 3

2 9 4

2 7 6

9 5 1

4 3 8



- 3) Suppose you want to simulate the Birthday Paradox by generating random birthdays **1 point** for a group of people. Which library function would you most likely use to create random integers

What is your date of birth? (unit? unit=78&lesso n=90)

Birthday Paradox - Find your twin 01 (unit? unit=78&lesso n=91)

Birthday Paradox - Find your twin 02 (unit? unit=78&lesso n=92)

Birthday Paradox - Find your twin 03 (unit? unit=78&lesso n=93)

Birthday Paradox - Find your twin 04 (unit? unit=78&lesso n=94)

Birthday Paradox - Find your twin 05 (unit? unit=78&lesso n=95)

What's your favourite movie? (unit? unit=78&lesso n=96)

Guess the Movie Name 01 (unit? unit=78&lesso n=97)

Guess the Movie Name 02 (unit? unit=78&lesso n=98)

representing birthdays?

- random.randint()
- time.time()
- random.random()
- None of the above

Yes, the answer is correct.

Score: 1

Accepted Answers:  
*random.randint()*

4) Which of the following are functions in the date-time module of Python? **1 point**

- datetime.now ()
- datetime.present()
- date.today()
- date.now()

Yes, the answer is correct.

Score: 1

Accepted Answers:  
*datetime.now ()*  
*date.today()*

5) The "Masked Gun" game is a simple guessing game where the player attempts to unlock a masked gun by correctly guessing a secret 4-digit code.

Arrange the steps in the correct sequence to create a Python code for a game.

1) Implement Game Loop:

- Set up a loop for the main game logic.

2) Display Masked Gun:

- Create a function to visually represent the masked gun.

3) Generate Secret Code

- Write a function to generate a random 4-digit secret code.

4) Provide Feedback and Manage Attempts for Guessing

- Display feedback based on the correctness of the guess and keep track of the number of attempts left for guessing

5) End Game:

- End the game when the player correctly guesses the code or runs out of attempts.

6) Validate and Compare Guess with Secret Code

- Check if the entered guess is a 4-digit numeric code and compare the player's guess with the generated secret code.

Enter your answer as a sequence without commas (NAT):

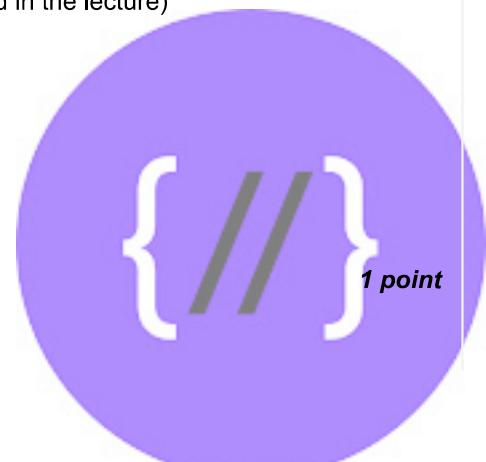
(Hint: Use the Logic like Guess the Movie game discussed in the lecture)

321645

Yes, the answer is correct.

Score: 1

Accepted Answers:  
*(Type: Numeric) 321645*



Guess the Movie Name  
03 (unit?  
unit=78&lesso  
n=99)

Guess the Movie Name  
04 (unit?  
unit=78&lesso  
n=100)

Guess the Movie Name  
05 (unit?  
unit=78&lesso  
n=101)

Guess the Movie Name  
06 (unit?  
unit=78&lesso  
n=102)

Week 4 Feedback  
Form: The Joy  
of Computing  
using Python  
(unit?  
unit=78&lesso  
n=103)

2.  
Programming  
Assignment |  
Week 4  
(/noc24\_cs57/  
progassignme  
nt?name=412)

3.  
Programming  
Assignment |  
Week 4  
(/noc24\_cs57/  
progassignme  
nt?name=413)

Quiz: Week 4  
: Assignment  
4  
(assessment?  
name=426)

---

Week 5 ()

---

Week 6 ()

---

6) To implement a magic square, we use the concept of matrices. Select all the statements that are True in this context.

**1 point**

- One possible Implementation of matrices is through nested lists in Python.
- NumPy is one of the standard libraries associated with implementing matrices.
- Implementation of matrices is only through lists in Python.
- None of the above

No, the answer is incorrect.

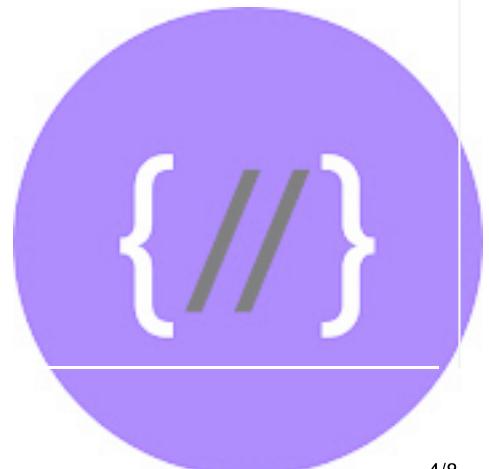
Score: 0

Accepted Answers:

*One possible Implementation of matrices is through nested lists in Python.*

7) Consider the given dataset of 60 people born in 2000. Run your code using the given data to check the count of people whose birthdays fall exactly on a Tuesday.

**0 points**



<b>Week 7 ()</b>	<b>Dataset:</b>	
<b>Week 8 ()</b>	Person 1: January 4, 2000	Person 17: February 19, 2000
<b>Week 9 ()</b>	Person 2: February 8, 2000	Person 18: March 2, 2000
<b>Week 10 ()</b>	Person 3: March 14, 2000	Person 19: March 11, 2000
<b>Week 11 ()</b>	Person 4: April 18, 2000	Person 20: April 3, 2000
<b>Week 12 ()</b>	Person 5: May 23, 2000	Person 21: April 18, 2000
<b>Text Transcripts ()</b>	Person 6: June 27, 2000	Person 22: May 5, 2000
<b>Download Videos ()</b>	Person 7: August 1, 2000	Person 23: May 19, 2000
<b>Books ()</b>	Person 8: September 5, 2000	Person 24: June 4, 2000
<b>Problem Solving Session - Jan 2024 ()</b>	Person 9: October 10, 2000	Person 25: June 22, 2000
	Person 10: November 14, 2000	Person 26: July 8, 2000
	Person 11: January 1, 2000	Person 27: July 24, 2000
	Person 12: January 6, 2000	Person 28: August 10, 2000
	Person 13: January 11, 2000	Person 29: August 27, 2000
	Person 14: January 16, 2000	Person 30: September 15, 2000
	Person 15: February 2, 2000	Person 31: October 3, 2000
	Person 16: February 9, 2000	Person 32: October 21, 2000
	Person 33: November 6, 2000	Person 43: March 15, 2000
	Person 34: November 21, 2000	Person 44: April 1, 2000
	Person 35: December 7, 2000	Person 45: April 11, 2000
	Person 36: December 23, 2000	Person 46: May 3, 2000
	Person 37: January 8, 2000	Person 47: May 14, 2000
	Person 38: January 14, 2000	Person 48: May 29, 2000
	Person 39: February 1, 2000	Person 49: June 11, 2000
	Person 40: February 9, 2000	Person 50: June 25, 2000
	Person 41: February 18, 2000	Person 51: July 9, 2000
	Person 42: March 7, 2000	Person 52: July 21, 2000
	Person 53: August 2, 2000	Person 57: September 21, 2000
	Person 54: August 18, 2000	Person 58: October 5, 2000
	Person 55: September 1, 2000	Person 59: October 19, 2000
	Person 56: September 9, 2000	Person 60: November 2, 2000

- 8
- 9
- 10
- 11

No, the answer is incorrect.

Score: 0

Accepted Answers:

10

8) What is the output of the following snippet of code? 1 point

Hint:

1. If  $L = [1, 2, 3, 4, 5]$ , then  $L[1: 3]$  is the list  $[2, 3]$ . Slicing a list is very similar to slicing a string. All the rules that you have learned about string-slicing apply to list-slicing.
2. If  $P = [1, 2, 3]$  and  $Q = [4, 5, 6]$  then  $P + Q$  is the list  $[1, 2, 3, 4, 5, 6]$ . Again, list concatenation is very similar to string concatenation.

```

L = [90, 47, 8, 18, 10, 7]
S = [L[0]]      #list containing just one element
for i in range(1,len(L)):
    flag = True
    for j in range(len(S)):
        if L[i] < S[j]:
            before_j= S[:j]#elements in S before index j
            new_j= [L[i]] #list containing just one element
            after_j=S[j:] #elements in S
                           #starting from index j
            # what is the size of S now?
            S = before_j + new_j + after_j
            # what is the size of S now?
            flag = False
            break
        if flag:
            S.append(L[i])
print(S)

```

- [90, 47, 8, 18, 10, 7]
- [7, 10, 18, 8, 47, 90]
- [7, 8, 10, 18, 47, 90]
- [90, 47, 18, 10, 8, 7]

Yes, the answer is correct.

Score: 1

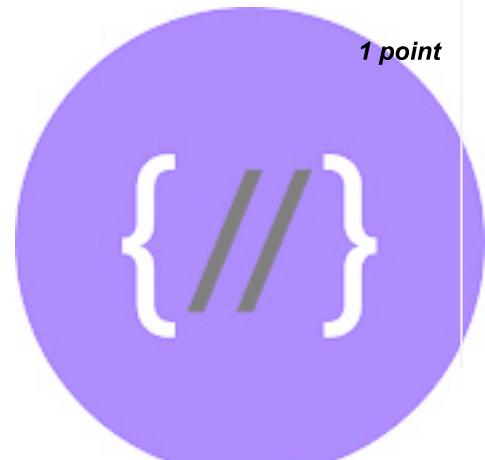
Accepted Answers:

[7, 8, 10, 18, 47, 90]

9) What does the random.choice () function do? 1 point

- Generates a random integer.
- Selects a random element from a sequence.
- Chooses a random floating-point number.
- Generates a random Boolean value.

Yes, the answer is correct.



Score: 1

Accepted Answers:

Selects a random element from a sequence.

10) Identify the magic squares from the following:

**1 point**



1	14	15	4
12	7	6	9
8	11	10	5
13	2	3	16



16	2	3	13
5	11	10	8
9	7	6	12
4	14	15	1



7	12	1	14
2	13	16	3
11	6	9	4
15	8	5	10



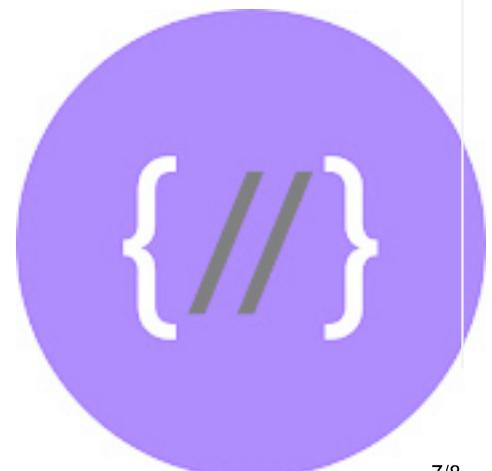
4	14	15	1
9	7	6	12
5	10	11	8
16	2	3	13

Yes, the answer is correct.

Score: 1

Accepted Answers:

1	14	15	4
12	7	6	9
8	11	10	5
13	2	3	16



16	2	3	13
5	11	10	8
9	7	6	12
4	14	15	1

{ // }

X



(https://swayam.gov.in)



(https://swayam.gov.in/nc\_details/NPTEL)

amazonking616@gmail.com ▾

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » The Joy of Computing using Python (course)

≡

If already registered, click to check your payment status

## Week 5 : Assignment 5

The due date for submitting this assignment has passed.

**Due on 2024-02-28, 23:59 IST.**

Course outline

About NPTEL ()

How does an NPTEL online course work? ()

Week 0 ()

Week 1 ()

Week 2 ()

Week 3 ()

week 4 ()

Week 5 ()

Introduction to Dictionaries (unit?)

**Assignment submitted on 2024-02-18, 15:43 IST**

1) Imagine the Monty Hall problem had four doors instead of three, and Monty opened one door to reveal a goat after your initial choice, what would be the probability of winning the car by switching? **0 points**

- 1/2
- 1/3
- 1/4
- 3/4

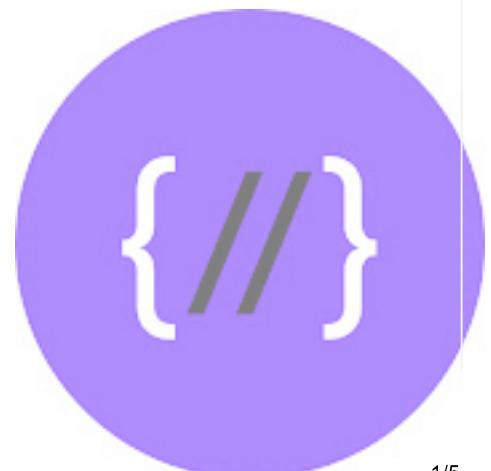
Yes, the answer is correct.  
Score: 0

Accepted Answers:  
3/4

2) What happens if you try to add a new key-value pair to a dictionary using a key that **1 point** already exists in the dictionary?

- The new value overwrites the existing value
- An error is raised
- The dictionary becomes immutable
- The new value is appended to the existing value

Yes, the answer is correct.  
Score: 1  
Accepted Answers:  
*The new value overwrites the existing value*



unit=104&less  
on=105)

Speech to Text  
: No need to  
write 01 (unit?  
unit=104&less  
on=106)

Speech to Text  
: No need to  
write 02 (unit?  
unit=104&less  
on=107)

Speech to Text  
: No need to  
write 03 (unit?  
unit=104&less  
on=108)

Monte Hall : 3  
doors and a  
twist 01 (unit?  
unit=104&less  
on=109)

Monte Hall : 3  
doors and a  
twist 02 (unit?  
unit=104&less  
on=110)

Rock, Paper  
and Scissor :  
Cheating not  
allowed !! 01  
(unit?  
unit=104&less  
on=111)

Rock, Paper  
and Scissor :  
Cheating not  
allowed !! 02  
(unit?  
unit=104&less  
on=112)

Rock, Paper  
and Scissor :  
Cheating not  
allowed !! 03  
(unit?  
unit=104&less  
on=113)

Rock, Paper  
and Scissor :  
Cheating not

3) The extended version of "Rock, Paper, Scissors" with "Lizard" and "Spock" was popularized by the TV show "The Big Bang Theory." Here are the rules for "Rock, Paper, Scissors, Lizard, Spock": **0 points**

- Rock wins against Scissors.
- Scissors wins against Paper.
- Paper wins against Rock.
- Rock wins against Lizard.
- Lizard wins against Spock.
- Spock wins against Scissors.
- Scissors wins against Lizard
- Lizard wins against Paper
- Paper wins against Spock.
- Spock wins against Rock.

Each option can defeat two other options, lose to two other options, and draw with one other option.

Now, the major steps involved in the algorithm for coding a rock-paper-scissors game as discussed in the lecture include:

- 1) Assigning values to the choices: The algorithm involves assigning numerical values to the rock, paper, and scissors choices, such as 1 for rock, 2 for paper, and 3 for scissors.
- 2) Inputting user choices: The algorithm prompts the users to input their choices for the game, such as rock, paper, or scissors.
- 3) Secret bit positions: The algorithm uses secret bit positions to determine the winner of the game, which involves bitwise operations to compare the choices and determine the outcome.
- 4) Coding the rules: The algorithm includes coding the rules for determining the winner based on the choices made by the players, such as using if-else conditions to compare the choices and declare the winner.
- 5) Running the program: The algorithm allows for running the program to test the rock- paper- scissors game with different user inputs and provides examples of the game outcomes.

What would be the possible change in steps for running "Rock, Paper, Scissors, Lizard, Spock"?

- Step 1 would involve assigning 5 values to choices instead of 3
- The bitwise operations involved in Step 3 would involve modulo operation with 5 instead of 3
- None of the above
- All the above

Yes, the answer is correct.

Score: 0

Accepted Answers:

All the above

4) How does Bubble Sort compare elements in an array? **1 point**

- Compares adjacent elements and swaps if they are in the wrong order
- Compares random elements in the array
- Compares all elements with the first element
- Compares elements in reverse order

allowed !! 04  
(unit?  
unit=104&less  
on=114)

Sorting and  
Searching : 20  
questions  
game 01 (unit?  
unit=104&less  
on=115)

Sorting and  
Searching : 20  
questions  
game 02 (unit?  
unit=104&less  
on=116)

Sorting and  
Searching : 20  
questions  
game 03 (unit?  
unit=104&less  
on=117)

Sorting and  
Searching : 20  
questions  
game 04 (unit?  
unit=104&less  
on=118)

Sorting and  
Searching : 20  
questions  
game 05 (unit?  
unit=104&less  
on=119)

Sorting and  
Searching : 20  
questions  
game 06 (unit?  
unit=104&less  
on=120)

Sorting and  
Searching : 20  
questions  
game 07 (unit?  
unit=104&less  
on=121)

Sorting and  
Searching : 20  
questions  
game 08 (unit?

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*Compares adjacent elements and swaps if they are in the wrong order*

5) To sort a list in ascending order when does Bubble Sort exhibit poor performance? **1 point**

- When the list is sorted in ascending order
- When the list is sorted in descending order
- When the list contains unique elements
- Bubble Sort always exhibits poor performance

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*When the list is sorted in descending order*

6) How many passes does Bubble Sort make through the array in the worst-case scenario for sorting n elements? **1 point**

- n
- n-1
- 2n
- $n^2$

Yes, the answer is correct.  
Score: 1

Accepted Answers:

$n-1$

7) How many pairs of adjacent elements are compared in a single pass of the bubble sort algorithm? **1 point**

- n
- n-1
- n/2
- 2n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

$n-1$

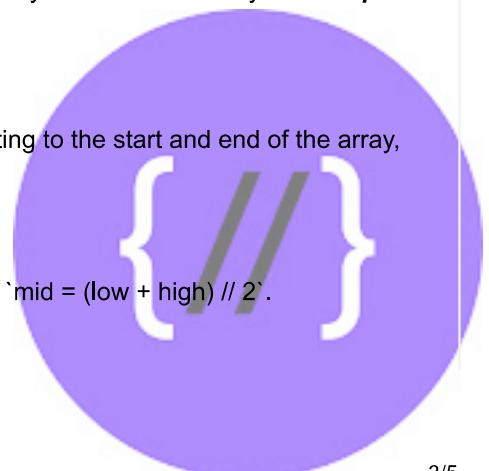
8) The following steps are required to implement the binary search for an array sorted **0 points** in ascending order.1)

1) Initialize Pointers:

- Set two pointers, `low` and `high`, initially pointing to the start and end of the array, respectively.

2) Calculate Midpoint:

- Calculate the midpoint index using the formula `mid = (low + high) // 2`.



unit=104&less  
on=122)

**Quiz: Week 5 : Assignment 5 (assessment? name=431)**

1. Programming Assignment | Week 5 (/noc24\_cs57/progassignment?name=414)

2. Programming Assignment | Week 5 (/noc24\_cs57/progassignment?name=415)

3. Programming Assignment | Week 5 (/noc24\_cs57/progassignment?name=416)

Week 5 Feedback Form: The Joy of Computing using Python (unit? unit=104&less on=123)

**Week 6 ()**

**Week 7 ()**

**Week 8 ()**

**Week 9 ()**

**Week 10 ()**

**Week 11 ()**

**Week 12 ()**

**3) Compare Midpoint Element:**

- Compare the element at the midpoint with the target element you are searching for:

- If the midpoint element is equal to the target, the search is successful, and you can return the index.

- If the midpoint element is less than the target, update 'low' to 'mid + 1' and continue the search in the right half.

- If the midpoint element is greater than the target, update 'high' to 'mid - 1' and continue the search in the left half.

**4) Repeat:**

- Repeat steps 3-4 until the 'low' pointer is greater than the 'high' pointer. This means the search range has become empty.

**5) Return Result:**

- If the target element is found, return its index. If the target is not found, return a sentinel value (e.g., -1) to indicate that the element is not in the array.

Which steps would require modification if the array were sorted in descending order?

- Step 2
- Step 4
- Steps 2 and 4
- No modification in steps

No, the answer is incorrect.

Score: 0

Accepted Answers:

*Steps 2 and 4*

**9) Select the correct statements among the following**

**1 point**

- In the presence of duplicate elements in a list, binary search always finds the first occurrence of the element in the list
- In the presence of duplicate elements in a list, binary search may or may not find the first occurrence of the element in the list
- In the presence of duplicate elements in a list, the existing binary search algorithm with minor modifications can be used to find the first occurrence of the target element in the list
- In the presence of duplicate elements in a list, the existing binary search can be used to find any kth(k can be any number from 1 to number of times the element has been repeated) of target element in the list

Yes, the answer is correct.

Score: 1

Accepted Answers:

*In the presence of duplicate elements in a list, binary search may or may not find the first occurrence of the element in the list*

*In the presence of duplicate elements in a list, the existing binary search algorithm with minor modifications can be used to find the first occurrence of the target element in the list*

10) Swapping of two numbers is an intermediate step in any sorting algorithm. In the lecture we use a temporary variable to swap two elements in the list.

Can swapping of two numbers be done without using a temporary variable?

**1 point**

**Text**

**Transcripts ()**

**Download Videos ()**

**Books ()**

**Problem Solving Session - Jan 2024 ()**

- Yes
- No
- Depends on size of list
- Depends on nature of elements in the list

Yes, the answer is correct.

Score: 1

Accepted Answers:

Yes



X



(https://swayam.gov.in)



(https://swayam.gov.in/nc\_details/NPTEL)

amazonking616@gmail.com ▾

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » The Joy of Computing using Python (course)

≡

If already registered, click to check your payment status

Course outline

About NPTEL ()

How does an NPTEL online course work? ()

Week 0 ()

Week 1 ()

Week 2 ()

Week 3 ()

week 4 ()

Week 5 ()

Week 6 ()

Substitution Cipher -The

## Week 6 : Assignment 6

The due date for submitting this assignment has passed.

**Due on 2024-03-06, 23:59 IST.**

Assignment submitted on 2024-02-24, 12:45 IST

1) What is the output of following code:

**1 point**

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

n = 25
print(mystry(n))
```

- 14930352
- 75025
- 610
- None of the above

Yes, the answer is correct.

Score: 1

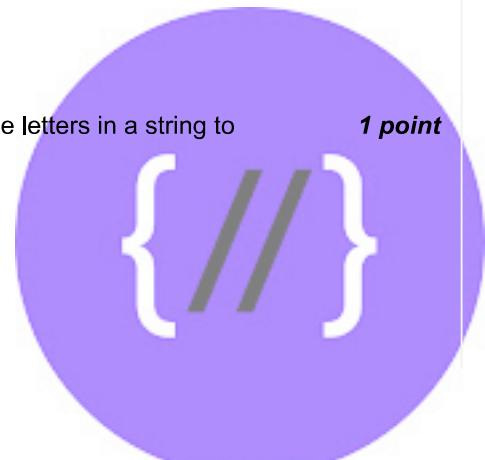
Accepted Answers:

75025

2) Which method in Python is used to convert lowercase letters in a string to uppercase?

**1 point**

- upper()
- capitalize()
- casefold()



science of  
secrecy (unit?  
unit=124&less  
on=125)

● Substitution  
Cipher -The  
science of  
secrecy 01  
(unit?  
unit=124&less  
on=126)

● Substitution  
Cipher -The  
science of  
secrecy 02  
(unit?  
unit=124&less  
on=127)

● Substitution  
Cipher -The  
science of  
secrecy 03  
(unit?  
unit=124&less  
on=128)

● Tic Tac Toe -  
Down the  
memory Lane  
(unit?  
unit=124&less  
on=129)

● Tic Tac Toe -  
Down the  
memory Lane  
01 (unit?  
unit=124&less  
on=130)

● Tic Tac Toe -  
Down the  
memory Lane  
02 (unit?  
unit=124&less  
on=131)

● Tic Tac Toe -  
Down the  
memory Lane  
03 (unit?  
unit=124&less  
on=132)

● Tic Tac Toe -  
Down the  
memory Lane

swapcase ()

Yes, the answer is correct.

Score: 1

Accepted Answers:

*upper ()*

3) The "Min Max" strategy, often referred to as the minimax algorithm, is a decision-making algorithm used in game theory and artificial intelligence. It's commonly employed in two-player games with alternate turns and perfect information, such as chess or tic-tac-toe. What is the primary objective of the min max algorithm? **1 point**

- Maximizing the player's score
- Minimizing the opponent's score
- Minimizing the maximum possible loss
- Maximizing the number of moves

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Minimizing the maximum possible loss*

4) Typecasting refers to the conversion of one data type to another. Python provides several built-in functions for typecasting, such as `int()`, `float()`, `str()`, `list()`, `tuple()`, `set()`, and `dict()` among others, to convert between different data types. What would be the output of the following code? **1 point**

```
num_str = "123babumoshai"
num = int(num_str)
print(num)
```

123

ValueError

SyntaxError

NameError

Yes, the answer is correct.

Score: 1

Accepted Answers:

*ValueError*

5) What term is used in programming languages when a function calls itself? **1 point**

Self-referencing

Iteration

Recursion

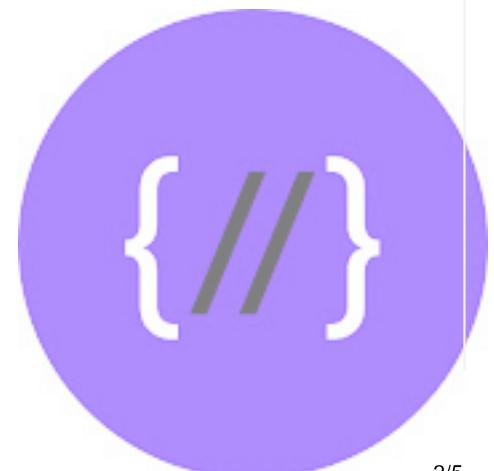
Circular referencing

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Recursion*



04 (unit?  
unit=124&less  
on=133)

05 Tic Tac Toe -  
Down the  
memory Lane  
05 (unit?  
unit=124&less  
on=134)

06 Recursion  
(unit?  
unit=124&less  
on=135)

07 Recursion 01  
(unit?  
unit=124&less  
on=136)

08 Recursion 02  
(unit?  
unit=124&less  
on=137)

09 Recursion 03  
(unit?  
unit=124&less  
on=138)

10 Recursion 04  
(unit?  
unit=124&less  
on=139)

11 Recursion 05  
(unit?  
unit=124&less  
on=140)

12 Recursion 06  
(unit?  
unit=124&less  
on=141)

**Quiz: Week 6**  
: Assignment  
6  
(assessment?  
name=435)

1.  
Programming  
Assignment |  
Week 6  
(/noc24\_cs57/  
progassignme  
nt?name=400)

6) Consider the following snippet of code.

**1 point**

```
def func(L):
    if L == []:
        return 0
    if L[0] % 2 == 0:
        return 1 + func(L[1:])
    else:
        return func(L[1:])
```

If L is a non-empty list of positive integers, which of the following statements is correct about the recursive function func(L)?

- It returns the total number of odd elements in the list L
- It returns the total number of even elements in the list L
- It returns the sum of the even elements in the list L
- It returns the sum of the odd elements in the list L

Yes, the answer is correct.

Score: 1

Accepted Answers:

*It returns the total number of even elements in the list L*

7) Consider the following snippet of code.

**1 point**

```
def func(L):
    if L == []:
        return 0
    if L[-1] % 2 == 1:
        return L[-1] + func(L[:-1])
    else:
        return func(L[:-1])
```

If L is a non-empty list of positive integers, which of the following statements is correct about the recursive function func (L) ?

- It returns the total number of odd elements in the list L
- It returns the total number of even elements in the list L
- It returns the sum of the even elements in the list L
- It returns sum of the odd elements in the list L

Yes, the answer is correct.

Score: 1

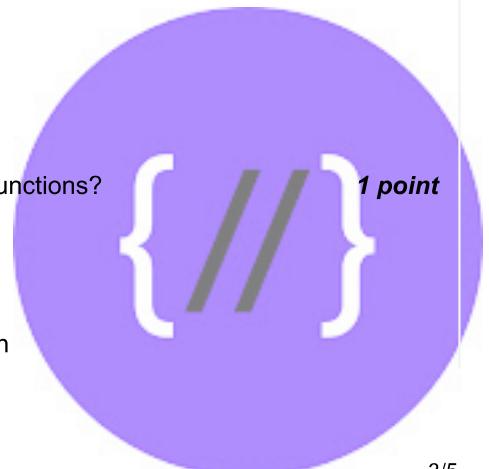
Accepted Answers:

*It returns sum of the odd elements in the list L*

8) What purpose does a base case serve in recursive functions?

**1 point**

- To make the function run faster
- To eliminate the need for additional functions
- To prevent infinite recursion and ensure termination



2.  
Programming Assignment | Week 6 (/noc24\_cs57/progassignment?name=401)

3.  
Programming Assignment | Week 6 (/noc24\_cs57/progassignment?name=402)

Week 6 Feedback Form: The Joy of Computing using Python (unit? unit=124&lesson=142)

[Week 7 \(\)](#)

[Week 8 \(\)](#)

[Week 9 \(\)](#)

[Week 10 \(\)](#)

[Week 11 \(\)](#)

[Week 12 \(\)](#)

[Text](#)

[Transcripts \(\)](#)

[Download Videos \(\)](#)

[Books \(\)](#)

[Problem Solving Session - Jan 2024 \(\)](#)

To enable the function to handle complex calculations

Yes, the answer is correct.

Score: 1

Accepted Answers:

*To prevent infinite recursion and ensure termination*

### Q. 9-10

Consider the following function `f` that accepts an integer as argument `n`.

```
def f(n):
    if n > 1:
        if (n ** 0.5) == int(n ** 0.5):
            return 1 + f(int(n ** 0.5))
        elif n % 2 != 0:
            return 1 + f(3 * n + 1)
        else:
            return 1 + f(int(n / 2))
    elif n < 1:
        return 1 + f(n ** 2)
    else:
        return 0
```

9) What is the value returned by `f(10000)` ?

Yes, the answer is correct.

Score: 1

Accepted Answers:

*(Type: Numeric) 7*

**1 point**

10) What is the value returned by `f(-8)` ?

Yes, the answer is correct.

Score: 1

Accepted Answers:

*(Type: Numeric) 5*

**1 point**



{//}

X



(<https://swayam.gov.in>)



([https://swayam.gov.in/nc\\_details/NPTEL](https://swayam.gov.in/nc_details/NPTEL))

amazonking616@gmail.com ▾

NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » The Joy of Computing using Python (course)

≡

If already registered, click to check your payment status

## Week 7: Assignment 7

The due date for submitting this assignment has passed.

**Due on 2024-03-13, 23:59 IST.**

Course outline

About NPTEL ()

How does an NPTEL online course work? ()

Week 0 ()

Week 1 ()

Week 2 ()

Week 3 ()

week 4 ()

Week 5 ()

Week 6 ()

Week 7 ()

Assignment submitted on 2024-03-13, 17:23 IST

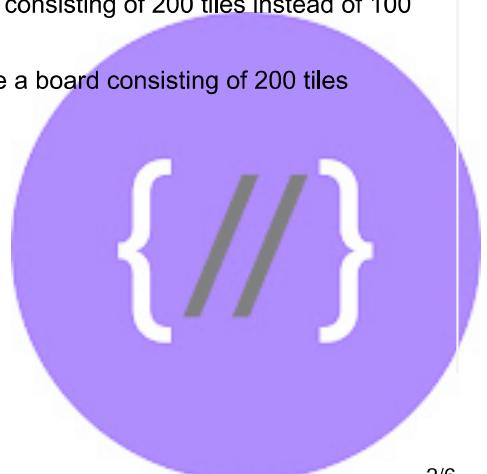
1) The Chaupar game, also known as Pachisi, involves a player moving their pieces around a cross-shaped board based on the throw of dice (or cowrie shells). The objective is to reach the centre of the board. The steps required to implement the game are given below

0	15	16
1	14	17
2	13	19
3	12	20
4	11	21
5	10	22
6	9	23
7	8	24

7	6	5	4	3	2	1	0
8	9	10	11	12	13	14	15
23	22	21	20	19	18	17	16

7	8	23
6	9	22
5	10	21
4	11	20
3	12	19
2	13	18
1	14	17
0	15	16

- Snakes and Ladders - Not on the Board (unit? unit=143&less on=144)
  - Snakes and Ladders - Not on the Board - Part 01 (unit? unit=143&less on=145)
  - Snakes and Ladders - Not on the Board - Part 02 (unit? unit=143&less on=146)
  - Snakes and Ladders - Not on the Board - Part 03 (unit? unit=143&less on=147)
  - Snakes and Ladders - Not on the Board - Part 04 (unit? unit=143&less on=148)
  - Snakes and Ladders - Not on the Board - Part 05 (unit? unit=143&less on=149)
  - Snakes and Ladders - Not on the Board - Part 06 (unit? unit=143&less on=150)
  - Spiral Traversing - Let's Animate (unit? unit=143&less on=151)
  - Spiral Traversing - Let's Animate -
- Arrange them in correct order of implementation. The answer should be a sequence with the step numbers (Example :132)
1. Roll the dice (or simulate the throw of cowrie shells) to determine the number of steps the player can take. Move the player's piece based on the dice roll. Check if the new position is within the board limits. If it is, proceed; otherwise, stay at the current position.
  2. Create a cross-shaped board with four arms, each having three columns of eight squares. Initialize the player's position to be inside the board at position 0.. Define the centre of the board (position 24) as the goal.
  3. Check if the player has reached or exceeded the centre of the board (position 24). If the player has reached the centre, declare them the winner. If not, proceed to the next players turn and roll the die again and repeat the steps for each player
- 213**
- Yes, the answer is correct.  
Score: 1
- Accepted Answers:  
(Type: Numeric) 213
- 1 point**
- 2) Given Below is a simple algorithm for a Snake and Ladder game **1 point**
- I) Create a board with positions numbered from 1 to 100. Define the positions of snakes and ladders on the board. Each snake or ladder connects two positions.
- II) Roll the dice to get a random number between 1 and 6. Move the player's piece forward by the number obtained from the dice roll.
- Check if the new position contains the head of a snake or the bottom of a ladder. If it does, move the player to the corresponding position as per the snake or ladder.
- III) Check if the player has reached or exceeded position 100. If the player has reached or exceeded 100 declare them the winner. If not, proceed to the next player's turn. Repeat the process for each player's turn until a player wins.
- The following variations were suggested for the algorithm.
- A. If we are using a octahedral dice instead of a normal die, Step II) has to be changed to generate a random number between 1 and 8
  - B. Modification is required only in step I) if we use a board consisting of 200 tiles instead of 100
  - C. Modification is required in both steps I) and III) if we use a board consisting of 200 tiles instead of 100
- Identify the correct Statements
- A and B
  - Only B



Part 01 (unit?  
unit=143&less  
on=152)

Spiral  
Traversing -  
Let's Animate -  
Part 02 (unit?  
unit=143&less  
on=153)

Spiral  
Traversing -  
Let's Animate -  
Part 03 (unit?  
unit=143&less  
on=154)

Spiral  
Traversing -  
Let's Animate -  
Part 04 (unit?  
unit=143&less  
on=155)

Spiral  
Traversing -  
Let's Animate -  
Part 05 (unit?  
unit=143&less  
on=156)

Spiral  
Traversing -  
Let's Animate -  
Part 06 (unit?  
unit=143&less  
on=157)

Spiral  
Traversing -  
Let's Animate -  
Part 07 (unit?  
unit=143&less  
on=158)

GPS - Track  
the route (unit?  
unit=143&less  
on=159)

GPS - Track  
the route - Part  
01 (unit?  
unit=143&less  
on=160)

GPS - Track  
the route - Part  
02 (unit?)

- A and C
- Only C

Yes, the answer is correct.

Score: 1

Accepted Answers:

A and C

3) 3. Nishan enjoys the game of snake and ladders but feels that the player should be given an extra chance if the player lands on a prime numbered tile (Assume that no prime-numbered tile has a snake or ladder in it).

He generates the following function `is_prime(position)` to check if the position of the player is prime or not. However, there is a chance that there could be a small error in the code. Identify the line number corresponding to the error, in the absence of an error answer -1

```

1 def is_prime(position):
2     if position<=2 :
3         return False
4     for i in range(2,int(position**0.5)+1):
5         if position%i == 0 :
6             return False
7     return True

```

2

Yes, the answer is correct.

Score: 1

Accepted Answers:

(Type: Numeric) 2

1 point

4) Find the error in the line of code written using the library turtle to draw a square. In the absence of an error enter the answer as -1.

```

1 import turtle
2
3 screen=turtle.Screen()
4
5 squ = turtle.Turtle()
6
7 for i in range(3):
8     squ.forward(100)
9     squ.right(90)

```

7

Yes, the answer is correct.

Score: 1

Accepted Answers:

(Type: Numeric) 7



1 point

unit=143&less  
on=161)

GPS - Track  
the route - Part  
03 (unit?  
unit=143&less  
on=162)

GPS - Track  
the route - Part  
04 (unit?  
unit=143&less  
on=163)

Week 7  
Feedback  
Form: The Joy  
of Computing  
using Python  
(unit?  
unit=143&less  
on=164)

3.  
Programming  
Assignment |  
Week 7  
(/noc24\_cs57/  
progassignme  
nt?name=417)

2.  
Programming  
Assignment |  
Week 7  
(/noc24\_cs57/  
progassignme  
nt?name=418)

1.  
Programming  
Assignment |  
Week 7  
(/noc24\_cs57/  
progassignme  
nt?name=419)

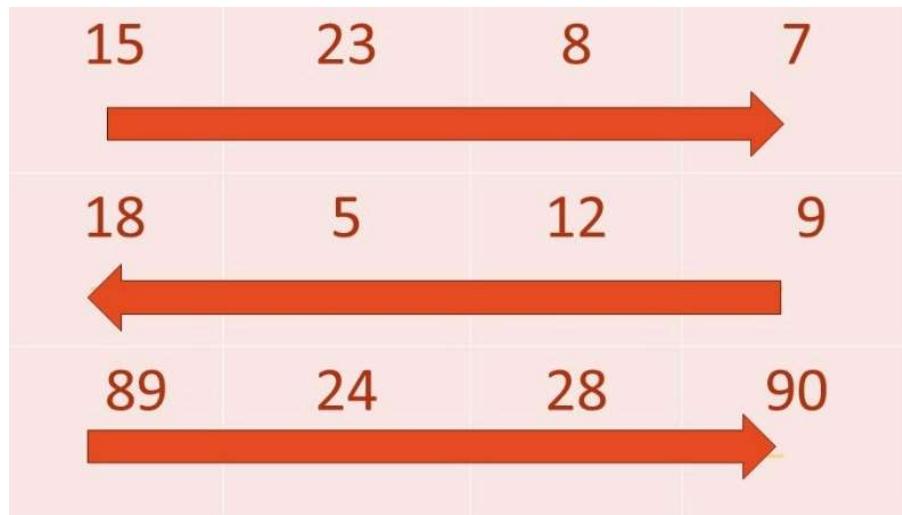
Quiz: Week 7:  
Assignment 7  
(assessment?  
name=436)

Week 8 ()

Week 9 ()

Week 10 ()

5) Like the spiral pattern, the matrix can be printed in many patterns and forms. In the **1 point** snake pattern, the elements of the row are first printed from left to right and then the elements of the next row are printed from right to left and so on.



A crucial step in the algorithm to print the snake pattern is to check the row parity (remainder when the row number is divided by 2). Identify the correct statements regarding this step. (Assume the normal row indexing in a matrix starting from 0) [MSQ]

- When parity is 0, we print the elements of the row from left to right
- When parity is 1, we print the elements of the row from left to right
- When parity is 0, we print the elements of the row from right to left
- When parity is 1, we print the elements of the row from right to left

Yes, the answer is correct.

Score: 1

Accepted Answers:

*When parity is 0, we print the elements of the row from left to right*

*When parity is 1, we print the elements of the row from right to left*

6) Which of these conditions guarantee that the element is a boundary element of the **1 point** matrix of order m by n? Take i as the row index and j as the column index of the element of to be checked [MSQ]

- $i==0$
- $i== m-1$
- $j==0$
- $j==n-1$

Yes, the answer is correct.

Score: 1

Accepted Answers:

$i==0$

$i== m-1$

$j==0$

$j==n-1$

7) Given a set of 4 integers as input, the following code tries to print the elements in the form of a square matrix of order 2 . But the code might contain errors. Identify the line number

[Week 11 \(\)](#)[Week 12 \(\)](#)[Text  
Transcripts \(\)](#)[Download  
Videos \(\)](#)[Books \(\)](#)[Problem  
Solving  
Session -  
Jan 2024 \(\)](#)

corresponding to the error. In the absence of an error give your answer as -1

```

1 print("Enter 4 integers, 1 in each line")
2 numbers = []
3 for i in range(4):
4     numbers.append(int(input()))
5
6 matrix=[[[],[]]
7 matrix[0] = numbers[:2]
8 matrix[1]= numbers[2:]
9
10 for row in matrix :
11     for element in row:
12         print(element, end=" ")
13     print()

```

Yes, the answer is correct.

Score: 1

Accepted Answers:

(Type: Numeric) -1

**1 point**

8) How can you write data to a CSV file using the `csv` module?

**1 point**

- `write\_csv\_file()`
- `csv.writer()`
- `csv.write()`
- `write\_csv()`

Yes, the answer is correct.

Score: 1

Accepted Answers:

`csv.writer()`

9) Which object is commonly used for reading rows from a CSV file in Python?

**1 point**

- `csv.parser`
- `csv.handler`
- `csv.reader`
- `csv.iterator`

Yes, the answer is correct.

Score: 1

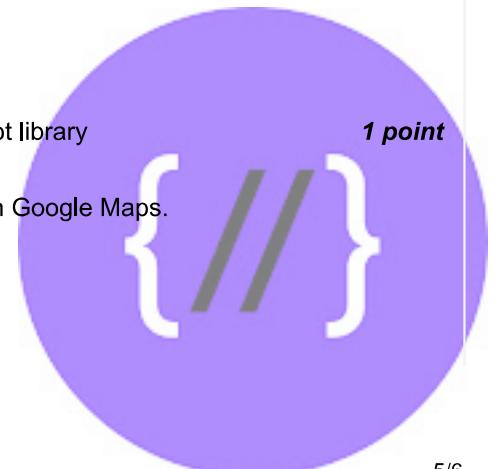
Accepted Answers:

`csv.reader`

10) Identify the correct statement(s) regarding the gmplot library

**1 point**

- I) gmplot is a Python library that allows you to plot data on Google Maps.
- II) The syntax for creating a base map with gmplot is  
`gmplot.GoogleMapPlotter(latitude, longitude, zoom)`



the parameters are the geographical coordinates i.e., Latitude and Longitude and the zoom resolution

- I only
- II only
- Both I and II
- Neither I nor II

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Both I and II*



X



(https://swayam.gov.in)



(https://swayam.gov.in/nc\_details/NPTEL)

amazonking616@gmail.com ▾

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » The Joy of Computing using Python (course)

≡

If already registered, click to check your payment status

## Week 8 : Assignment 8

The due date for submitting this assignment has passed.

**Due on 2024-03-20, 23:59 IST.**

Course outline

About NPTEL ()

How does an NPTEL online course work? ()

Week 0 ()

Week 1 ()

Week 2 ()

Week 3 ()

week 4 ()

Week 5 ()

Week 6 ()

Week 7 ()

Assignment submitted on 2024-03-13, 22:48 IST

1) Which of the following statements about tuples in Python is correct? **1 point**

- Tuples are mutable, allowing modification of individual elements after creation.
- Tuples are enclosed in square brackets [ ], similar to lists.
- Tuples are immutable, meaning their elements cannot be changed after creation
- Tuples can only contain elements of the same data type.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Tuples are immutable, meaning their elements cannot be changed after creation*

2) Tuples share a close resemblance to lists. They can be indexed and sliced just like **1 point** lists. The main point of difference between lists and tuples is that tuples cannot be updated in-place. Elements in a tuple cannot be deleted. Which of the following statements are true about Tuples:

- A tuple can hold mutable objects.
- Tuples can be nested.
- A list can be converted into a tuple and vice versa.
- A tuple can hold a non-homogeneous sequence of items, viz. `a_tuple = (1, 'cool', True)`.

Yes, the answer is correct.

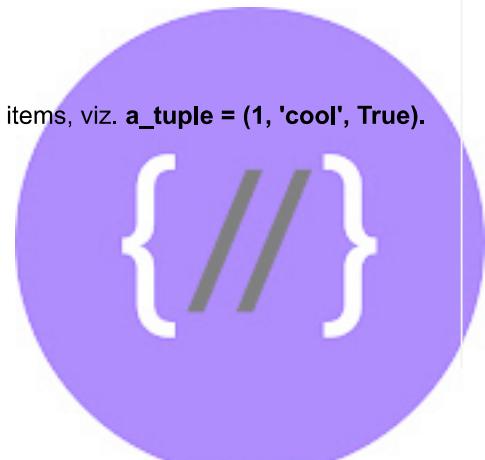
Score: 1

Accepted Answers:

*A tuple can hold mutable objects.*

*Tuples can be nested.*

*A list can be converted into a tuple and vice versa.*



**Week 8 ()**

Tuples- Python Data Structure  
(unit?  
unit=165&less  
on=166)

Lottery Simulation - Profit or Loss  
(unit?  
unit=165&less  
on=167)

Lottery Simulation - Profit or Loss - Part 01  
(unit?  
unit=165&less  
on=168)

Lottery Simulation - Profit or Loss - Part 02  
(unit?  
unit=165&less  
on=169)

Lottery Simulation - Profit or Loss - Part 03  
(unit?  
unit=165&less  
on=170)

Lottery Simulation - Profit or Loss - Part 04  
(unit?  
unit=165&less  
on=171)

Lottery Simulation - Profit or Loss - Part 05  
(unit?  
unit=165&less  
on=172)

Lottery Simulation - Profit or Loss - Part 06  
(unit?  
unit=165&less  
on=173)

Image Processing -

*A tuple can hold a non-homogeneous sequence of items, viz. `a_tuple = (1, 'cool', True)`.*

3) Which of the following best describes the role of `matplotlib.pyplot` in Python's **1 point** `matplotlib` library for data visualization?

- It is used for creating figures, plots, adding labels, and other visual elements to create visualizations.
- It primarily handles numerical computations and statistical analyses for data visualization.
- It manages data structures and handles data manipulation before visualization.
- It is responsible for creating interactive visualizations and animations.

Yes, the answer is correct.

Score: 1

Accepted Answers:

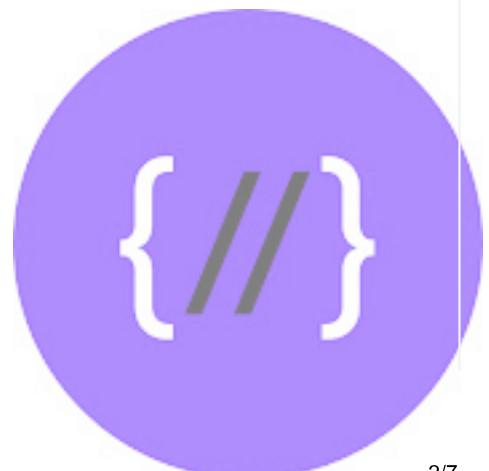
*It is used for creating figures, plots, adding labels, and other visual elements to create visualizations.*

4) The following paragraph is an excerpt from a talk given by Guido: **1 point**

In reality, programming languages are how programmers express and communicate ideas — and the audience for those ideas is other programmers, not computers. The reason: the computer can take care of itself, but programmers are always working with other programmers, and poorly communicated ideas can cause expensive flops. In fact, ideas expressed in a programming language also often reach the end users of the program — people who will never read or even know about the program, but who nevertheless are affected by it.

Text processing plays an important role in analysing text data. Given a piece of text, which of the following piece of code determines if how many words are there in the text?

Note: 1. Choose the nearest best option. 2. Special Characters are not counted as words.



Enhance your images (unit?  
unit=165&less  
on=174)

Image Processing - Enhance your images - Part 01 (unit?  
unit=165&less  
on=175)

Image Processing - Enhance your images - Part 02 (unit?  
unit=165&less  
on=176)

Image Processing - Enhance your images - Part 03 (unit?  
unit=165&less  
on=177)

Anagrams (unit?  
unit=165&less  
on=178)

Anagrams - Part 01 (unit?  
unit=165&less  
on=179)

Anagrams - Part 02 (unit?  
unit=165&less  
on=180)

Anagrams - Part 03 (unit?  
unit=165&less  
on=181)

Facebook Sentiment Analysis (unit?  
unit=165&less  
on=182)

Facebook Sentiment Analysis - Part 01 (unit?

```
text = "In reality, programming languages are how
programmers express and communicate ideas – and the
audience for those ideas is other programmers, not
computers. The reason: the computer can take care of
itself, but programmers are always working with other
programmers, and poorly communicated ideas can cause
expensive flops. In fact, ideas expressed in a
programming language also often reach the end users of
the program – people who will never read or even know
about the program, but who nevertheless are affected by
it."

sentences = text.split('.')
while '' in sentences:
    sentences.remove('')
print(len(sentences))

words = [ ]

for sentence in sentences:
    words_ = sentence.split(' ')
    words.extend(words_)

print(len(words))

proc_words = [ ]
for word in words:
    if not(word == '' or word == '-'):
        proc_words.append(word)

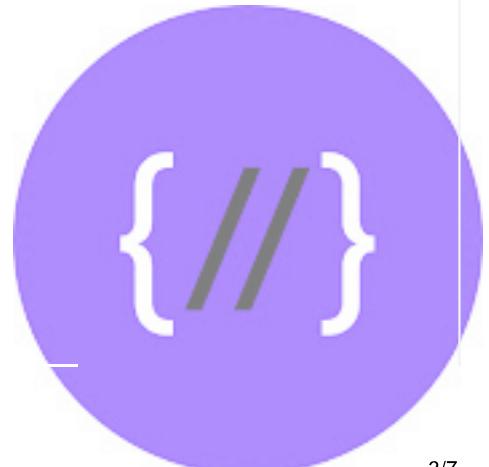
print(len(proc_words))

u_words = dict()
for word in proc_words:
    if word not in u_words:
        u_words[word] = 0
    u_words[word] += 1

print(len(u_words))

while '' in sentences:
    sentences.remove('')

print(len(sentences))
```



unit=165&less  
on=183)

Facebook  
Sentiment  
Analysis - Part  
02 (unit?  
unit=165&less  
on=184)

Facebook  
Sentiment  
Analysis - Part  
03 (unit?  
unit=165&less  
on=185)

Facebook  
Sentiment  
Analysis - Part  
04 (unit?  
unit=165&less  
on=186)

Week 8  
Feedback  
Form: The Joy  
of Computing  
using Python  
(unit?  
unit=165&less  
on=187)

1.  
Programming  
Assignment |  
Week 8  
(/noc24\_cs57/  
progassignme  
nt?name=403)

2.  
Programming  
Assignment |  
Week 8  
(/noc24\_cs57/  
progassignme  
nt?name=405)

3.  
Programming  
Assignment |  
Week 8  
(/noc24\_cs57/  
progassignme  
nt?name=406)

**Quiz: Week 8**  
: Assignment  
8

```

words = [ ]
for sentence in sentences:
    words_ = sentence.split(' ')
    words.extend(words_)
print(len(words))

proc_words = [ ]
for word in words:
    if not(word == '' or word == '-'):
        proc_words.append(word)
print(len(proc_words))

u_words = dict()
for word in proc_words:
    if word not in u_words:
        u_words[word] = 0
    u_words[word] += 1
print(len(u_words))

```

No, the answer is incorrect.

Score: 0

Accepted Answers:

```

proc_words = [ ]
for word in words:
    if not(word == '' or word == '-'):
        proc_words.append(word)
print(len(proc_words))

```

[Code for question 5 & 6:](#)



(assessment?  
name=437)

Week 9 ()

Week 10 ()

Week 11 ()

Week 12 ()

Text  
Transcripts ()

Download  
Videos ()

Books ()

Problem  
Solving  
Session -  
Jan 2024 ()

```
def anagram(word1, word2):
    if len(word1) != len(word2):
        return False
    for i in word1:
        if word1.count(i) != word2.count(i):
            return False
    return True
```

5) How does the given code check if two strings are anagrams? [MSQ]

1 point

- Compares the lengths of the two input strings. If they are equal, it proceeds to check the character counts in each string.
- Using a loop to count the occurrence of character present at even places in both strings.
- Iterates through each character in word1 and compares the count of that character in both word1 and word2. If the counts match for all characters, the strings are considered anagrams
- Compares the lengths of the two input strings. If they are not equal, it proceeds to check the character counts in each string

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Compares the lengths of the two input strings. If they are equal, it proceeds to check the character counts in each string.*

*Iterates through each character in word1 and compares the count of that character in both word1 and word2. If the counts match for all characters, the strings are considered anagrams*

6) If two strings are anagrams, what would be the output of the above code? [MSQ]

1 point

- The output in case of `anagram("listen", "silent")` is `True`
- A Boolean Value
- The output in case of `anagram("")hello", "world")` is `True`
- The output in case of `anagram("race", "care")` is `True`

Yes, the answer is correct.

Score: 1

Accepted Answers:

*The output in case of `anagram("listen", "silent")` is `True`*

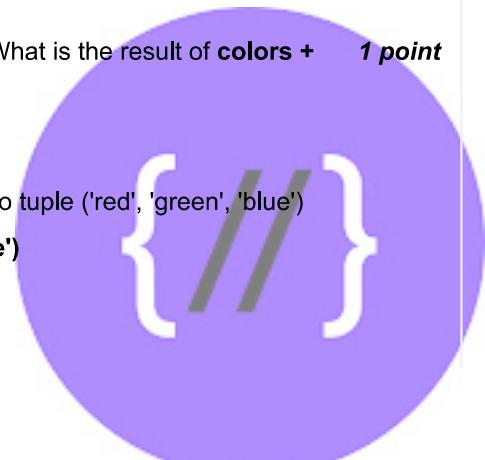
*A Boolean Value*

*The output in case of `anagram("race", "care")` is `True`*

7) Consider the tuple `colors = ('red', 'green', 'blue')`. What is the result of `colors + ('purple')`?

1 point

- ('red', 'green', 'blue', 'purple')
- `TypeError`: can only concatenate tuple (not "str") to tuple ('red', 'green', 'blue')
- ('red', 'green', 'blue', 'red', 'green', 'blue', 'purple')
- ('red', 'green', 'blue')



Yes, the answer is correct.

Score: 1

Accepted Answers:

*TypeError: can only concatenate tuple (not "str") to tuple ('red', 'green', 'blue')*

- 8) Which statement accurately describes the use of VADER and DataFrames in sentiment analysis? 1 point

- VADER is a machine learning-based tool used with DataFrames to analyze sentiment in images.
- VADER is a lexicon and rule-based sentiment analysis tool often used with Pandas DataFrames to assess sentiment in text data.
- DataFrames are used to visualize sentiment analysis results, while VADER is a Python visualization library.
- VADER and DataFrames are used in data preprocessing, not specifically in sentiment analysis tasks.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*VADER is a lexicon and rule-based sentiment analysis tool often used with Pandas DataFrames to assess sentiment in text data.*

- 9) **Statement 1:** The method used for flipping the image in the PIL library is 1 point

**Statement 2:** CLAHE (Contrast Limited Adaptive Histogram Equalization) is favoured over AHE (Adaptive Histogram Equalization) for its advantage in handling noise

- Only one of the above two statements are correct
- Both statements are correct
- Both statements are incorrect
- Insufficient information to determine the correctness of both statements.

No, the answer is incorrect.

Score: 0

Accepted Answers:

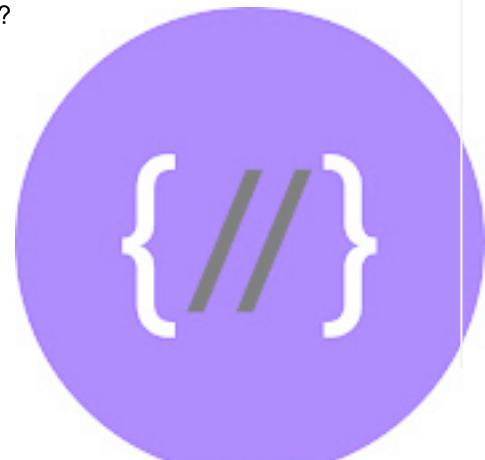
*Both statements are correct*

- 10) Consider the following snippet of code. 1 point

```
word_string = 'abcd'
word_list = ['a', 'b', 'c', 'd']
word_tupple = ('a', 'b', 'c', 'd')
```

Which of the following snippets of code will throw an error?

- `word_list[0] = 'z'`  
`print(word_list)`
- `word_string[0] = 'z'`  
`print()`
- `word_tupple[0] = 'z'`
- All are correct



Yes, the answer is correct.

Score: 1

Accepted Answers:

```
word_string[0] = 'z'  
print()  
word_tuple[0] = 'z'
```



X



(https://swayam.gov.in)



(https://swayam.gov.in/noc\_details/NPTEL)

amazonking616@gmail.com ▾

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » The Joy of Computing using Python (course)

≡

If already registered, click to check your payment status

## Course outline

### About NPTEL

()

### How does an NPTEL online course work?

()

### Week 0

### Week 1

### Week 2

### Week 3

### week 4

### Week 5

### Week 6

### Week 7

### Week 8

### Week 9

### Natural Language

# Week 9: Assignment

The due date for submitting this assignment has passed.

**Due on 2024-03-27, 23:59 IST.**

**Assignment submitted on 2024-03-21, 21:13 IST**

1) What is stylometry?

**1 point**

- The study of language evolution
- The study of linguistic style in written texts
- The study of speech patterns in public speaking
- The study of language acquisition in children

Yes, the answer is correct.

Score: 1

Accepted Answers:

*The study of linguistic style in written texts*

2) What are the different attributes that can be checked in addition to average word length to identify the style of a particular author? (MSQ) **1 point**

- Punctuation usage
- Word Frequency
- Usage of Stylistic Devices like Metaphors, Similes, etc
- Average Sentence Length

Yes, the answer is correct.

Score: 1

Accepted Answers:

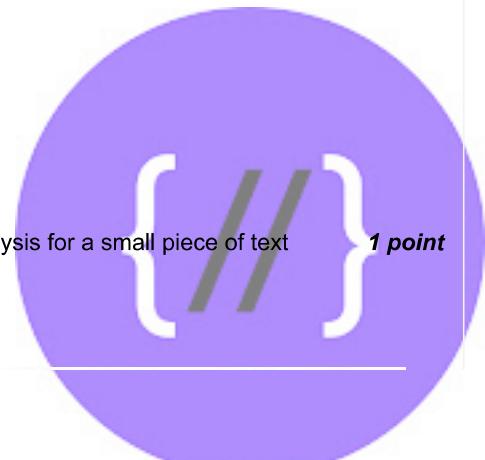
*Punctuation usage*

*Word Frequency*

*Usage of Stylistic Devices like Metaphors, Similes, etc*

*Average Sentence Length*

3) The following code tries to perform natural language analysis for a small piece of text without using the nltk (Natural Language Toolkit) library. **1 point**



Processing -  
Author  
Stylometry (unit?  
unit=188&lesson  
=189)

○ Natural  
Language  
Processing -  
Author  
Stylometry - Part  
01 (unit?  
unit=188&lesson  
=190)

○ Natural  
Language  
Processing -  
Author  
Stylometry - Part  
02 (unit?  
unit=188&lesson  
=191)

○ Natural  
Language  
Processing -  
Author  
Stylometry - Part  
03 (unit?  
unit=188&lesson  
=192)

○ Natural  
Language  
Processing -  
Author  
Stylometry - Part  
04 (unit?  
unit=188&lesson  
=193)

○ Natural  
Language  
Processing -  
Author  
Stylometry - Part  
05 (unit?  
unit=188&lesson  
=194)

○ Natural  
Language  
Processing -  
Author  
Stylometry - Part  
06 (unit?  
unit=188&lesson  
=195)

○ Natural  
Language  
Processing -  
Author

```

1 text = "Natural Language Processing Using Python "
2 words = text.split()
3 x= [len(word) for word in words]
4 y =sum(x)
5 z = y/ len(x)
6
7 print(y,z)
8

```

Select all the correct statements (MSQ)

- y represents the sum of length of words in text
- z represents the average word length of text
- x represents a list where each index of the list corresponds to the length of the corresponding word in text
- The output of the code is: 36 7.2

Yes, the answer is correct.

Score: 1

Accepted Answers:

*y represents the sum of length of words in text*

*z represents the average word length of text*

*x represents a list where each index of the list corresponds to the length of the corresponding word in text*

*The output of the code is: 36 7.2*

4) The following code tries to calculate average sentence length of a given block of text in the form of a file, assuming that the sentences always end with full stops and that there are no ellipsis(...) in the block of text. But the code might contain errors. Identify the line number corresponding to the error. In the absence of an error input your answer as -1(NAT)

```

1 file_name =input()
2 with open(file_name, 'r') as file :
3     text = file.read()
4     no_of_words = [len(sentence.strip().split()) for sentence in text.split('.') if sentence.strip()]
5     average_length =sum(no_of_words)/len(text)
6     print('Average Sentence Length', average_length)
7

```

5

Yes, the answer is correct.

Score: 1

Accepted Answers:

*(Type: Numeric) 5*

1 point

5) What does the following code do?

1 point



Stylometry - Part 07 (unit?  
unit=188&lesson  
=196)

○ Natural Language Processing - Author  
Stylometry - Part 08 (unit?  
unit=188&lesson  
=197)

○ Natural Language Processing - Author  
Stylometry - Part 09 (unit?  
unit=188&lesson  
=198)

○ Natural Language Processing - Author  
Stylometry - Part 10 (unit?  
unit=188&lesson  
=199)

○ Introduction to Networkx - Part 01 (unit?  
unit=188&lesson  
=200)

○ Introduction to Networkx - Part 02 (unit?  
unit=188&lesson  
=201)

○ Six Degrees of Separation : Meet your favourites (unit?  
unit=188&lesson  
=202)

○ Six Degrees of Separation : Meet your favourites - Part 01 (unit?  
unit=188&lesson  
=203)

○ Six Degrees of Separation : Meet your favourites - Part 02 (unit?)

```

1 import networkx as nx
2 import random
3
4 G = nx.Graph()
5
6 for node in range(1,6):
7     G.add_node(node)
8
9 while(len(G.edges())!=10):
10     node1, node2 = random.sample(range(1,6),2)
11     G.add_edge(node1, node2)
12
13 print(G.nodes())
14 print(G.edges())
15

```

- A graph having 5 nodes which are integers from 1 to 5 and 10 edges in total is created and the edges and nodes of the graph are printed
- A graph having 6 nodes which are integers from 1 to 6 and 10 edges in total is created and the edges and nodes of the graph are printed
- A graph having 5 nodes which are integers from 1 to 5 and 9 edges in total is created and the edges and nodes of the graph are printed
- A graph having 6 nodes which are integers from 1 to 6 and 9 edges in total is created and the edges and nodes of the graph are printed

Yes, the answer is correct.

Score: 1

Accepted Answers:

*A graph having 5 nodes which are integers from 1 to 5 and 10 edges in total is created and the edges and nodes of the graph are printed*

- 6) You are analysing a social network where individuals are represented as nodes, and friendships are represented as edges. What would be the most appropriate graph property to study to identify influential individuals in the network?

- Node degree
- Graph density
- Graph diameter
- Edge weight

Yes, the answer is correct.

Score: 1

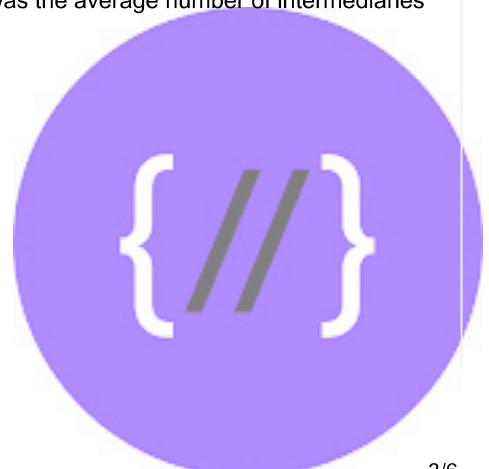
Accepted Answers:

*Node degree*

- 7) In the "small world experiment" conducted by Stanley Milgram, participants were asked to send a letter to a target person through acquaintances. What was the average number of intermediaries required for the letters to reach the target?

- 1 degree
- 3 degrees
- 6 degrees
- 10 degrees

Yes, the answer is correct.



unit=188&lesson  
=204)

Six Degrees of Separation :  
Meet your favourites - Part 03 (unit?  
unit=188&lesson  
=205)

Area Calculation - Don't Measure (unit?  
unit=188&lesson  
=206)

Area Calculation - Don't Measure - Part 01 (unit?  
unit=188&lesson  
=207)

Area Calculation - Don't Measure - Part 02 (unit?  
unit=188&lesson  
=208)

Area Calculation - Don't Measure - Part 03 (unit?  
unit=188&lesson  
=209)

Area Calculation - Don't Measure - Part 04 (unit?  
unit=188&lesson  
=210)

Area Calculation - Don't Measure - Part 05 (unit?  
unit=188&lesson  
=211)

Area Calculation - Don't Measure - Part 06 (unit?  
unit=188&lesson  
=212)

Week 9 Feedback Form:  
The Joy of Computing using Python (unit?  
unit=188&lesson  
=213)

1. Programming Assignment |  
Week 9  
(/noc24\_cs57/pr)

Score: 1

Accepted Answers:  
6 degrees

8) Given a file with edges of the graph, and each line representing an edge in the format "node 1 node 2", the following code attempts to plot a graph based on the data given. But the code might contain errors. Identify the line number corresponding to the error. In the absence of an error type your answer as -1.

```

1 import networkx as nx
2 import matplotlib.pyplot as plt
3
4 def load_graph_from_file(file):
5     G = nx.Graph()
6     with open(file, 'r') as file:
7         for line in file:
8             nodes = line.strip().split()
9             node1 = int(nodes[0])
10            node2 = int(nodes[1])
11            G.add_edge(node1, node2)
12
13
14 nx.draw(graph, with_labels=True, font_weight='bold')
15 plt.show()
```

14

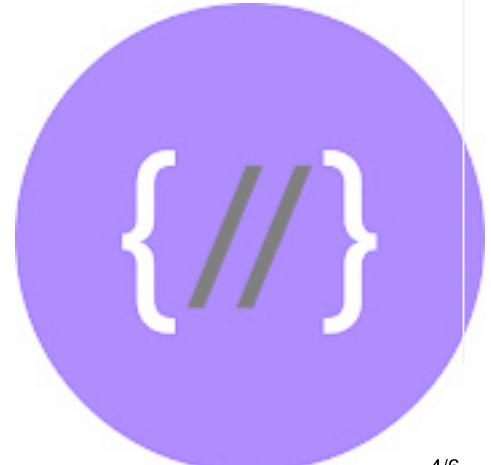
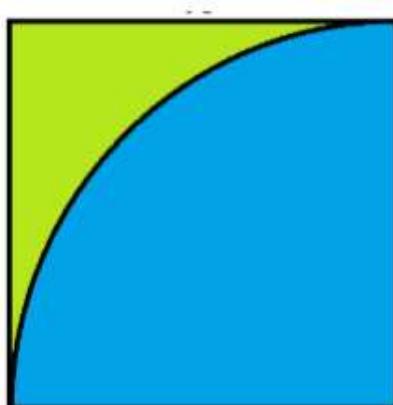
Yes, the answer is correct.

Score: 1

Accepted Answers:  
(Type: Numeric) 14

1 point

9) Using the ideas from Area Calculation discussed in the lecture, we are trying to estimate the area of a quarter circle embedded in a square. Identify the line number corresponding to the error(if any) in the absence of error type your answer as -1



ogassignment?  
name=420)

● 2. Programming  
Assignment |  
Week 9  
(/noc24\_cs57/pr  
ogassignment?  
name=421)

● 3. Programming  
Assignment |  
Week 9  
(/noc24\_cs57/pr  
ogassignment?  
name=422)

● Quiz: Week 9:  
Assignment  
(assessment?  
name=438)

[Week 10 \(\)](#)

[Week 11 \(\)](#)

[Week 12 \(\)](#)

[Text  
Transcripts \(\)](#)

[Download  
Videos \(\)](#)

[Books \(\)](#)

[Problem  
Solving  
Session - Jan  
2024 \(\)](#)

```

1 import random
2 # Parameters
3 num_points = 10000
4 radius = 1.0
5 # Function to check if a point is inside the quarter circle
6 def is_inside_quarter_circle(x, y, radius):
7     return x**2 + y**2 <= radius**2 and x >= 0 and y >= 0
8 # Monte Carlo simulation for area estimation of a quarter circle
9 def estimate_area_quarter_circle(num_points, radius):
10    inside_points = 0
11    for _ in range(num_points):
12        x = random.uniform(0, radius)
13        y = random.uniform(0, radius)
14        if is_inside_quarter_circle(x, y, radius):
15            inside_points += 1
16    area_ratio = inside_points / num_points
17    estimated_area = area_ratio * (radius)**2
18    return estimated_area

```

-1

Yes, the answer is correct.

Score: 1

Accepted Answers:

(Type: Numeric) -1

1 point

10) Select the correct statements regarding area calculation using the method discussed in the **1 point** lecture (MSQ)

- The main advantage of the method is that it can handle area calculation even for irregular shapes
- The main advantage of the method is that it is computationally efficient for all scenarios
- Increasing the number of random points reduces the impact of random variations and provides a more stable and accurate estimate of area
- Increasing the number of random points improves accuracy of estimation as it converges the average value to the true value according to law of large numbers

Yes, the answer is correct.

Score: 1

Accepted Answers:

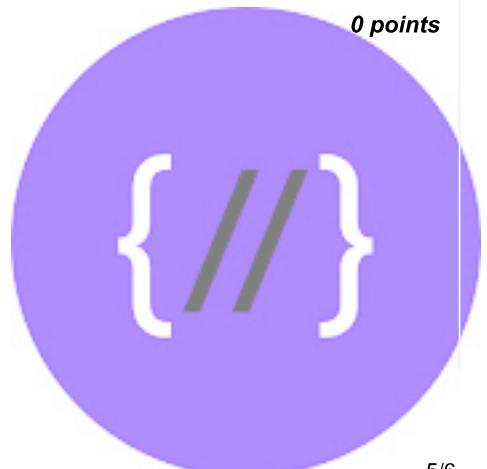
*The main advantage of the method is that it can handle area calculation even for irregular shapes*  
*Increasing the number of random points reduces the impact of random variations and provides a more stable and accurate estimate of area*  
*Increasing the number of random points improves accuracy of estimation as it converges the average value to the true value according to law of large numbers*

11) Select the correct statement regarding the PIL library

- PIL stands for Python Image Library
- Pillow is the active successor of PIL
- Image.open() is used to open images in PIL
- All of the above

Yes, the answer is correct.

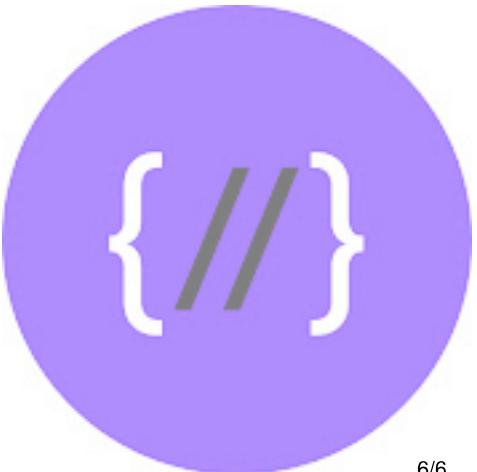
0 points



Score: 0

Accepted Answers:

*All of the above*



{//}

X



(https://swayam.gov.in)



(https://swayam.gov.in/nc\_details/NPTEL)

amazonking616@gmail.com ▾

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » The Joy of Computing using Python (course)

≡

If already registered, click to check your payment status

Course outline

About NPTEL ()

How does an NPTEL online course work? ()

Week 0 ()

Week 1 ()

Week 2 ()

Week 3 ()

week 4 ()

Week 5 ()

Week 6 ()

Week 7 ()

## Week 10 : Assignment 10

The due date for submitting this assignment has passed.

Due on 2024-04-03, 23:59 IST.

Assignment submitted on 2024-04-03, 10:55 IST

1) In the Josephus problem, a group of soldiers forms a circle, and every  $k^{\text{th}}$  soldier is **1 point** eliminated until only one remains. What would be the output of the following code:

```
def josephus(n, k):
    if n == 1:
        return 1
    else:
        return (josephus(n - 1, k) + k - 1) % n + 1
n = 25 #Number of soldiers
k = 3 #Elimination factor
result = josephus(n, k)
print(result)
```

- 3
- 14
- 19
- 13

Yes, the answer is correct.

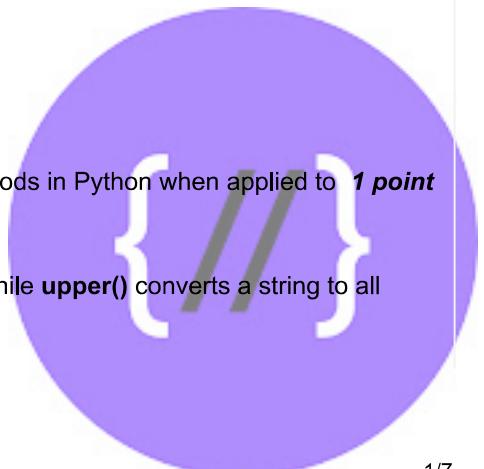
Score: 1

Accepted Answers:

14

2) What is the purpose of the **lower()** and **upper()** methods in Python when applied to **1 point** strings?

- lower()** converts a string to all lowercase letters, while **upper()** converts a string to all uppercase letters.



**Week 8 ()****Week 9 ()****Week 10 ()**

FLAMES - Part 01 (unit? unit=214&less on=215)

FLAMES - Part 02 (unit? unit=214&less on=216)

FLAMES - Part 03 (unit? unit=214&less on=217)

FLAMES - Part 04 (unit? unit=214&less on=218)

FLAMES - Part 05 (unit? unit=214&less on=219)

FLAMES - Part 06 (unit? unit=214&less on=220)

Data Compression - Part 01 (unit? unit=214&less on=221)

Data Compression - Part 02 (unit? unit=214&less on=222)

Data Compression - Part 03 (unit? unit=214&less on=223)

Data Compression - Part 04 (unit? unit=214&less on=224)

- lower()** converts a string to all uppercase letters, while **upper()** converts a string to all lowercase letters.
- Both **lower()** and **upper()** methods perform the same task of converting a string to title case.
- lower()** removes all whitespace from a string, while **upper()** adds whitespace to each character in a string.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*lower() converts a string to all lowercase letters, while upper() converts a string to all uppercase letters.*

3)

**1 point**

```
original_string = "apple, banana, cherry, apple, date"
modified_string = original_string.replace("apple", "orange")
print(modified_string)
```

What will be the output of the code snippet provided above?

- orange, banana, cherry, orange, date
- orange, banana, cherry, apple, date
- apple, banana, cherry, apple, date
- apple, banana, cherry, orange, orange

Yes, the answer is correct.

Score: 1

Accepted Answers:

*orange, banana, cherry, orange, date*

4) Slicing in lists works in the same manner as slicing in strings. If **P** is a non-empty list **1 point** of length n, we wish to create a list **Q** that has the first n-1 elements in **P**. Select the correct implementation(s) of this program.

- Q = P[0: len(P) - 1]**
- Q = P[:len(P) - 1]**
- Q = P[0:-1]**
- Q = P[:-1]**

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Q = P[0: len(P) - 1]*

*Q = P[:len(P) - 1]*

*Q = P[0:-1]*

*Q = P[:-1]*

5) Select all correct options about the matrix given below.

```
matrix = [[1, 2, 3], [4, 5, 6], [7, 8, 9], [10, 11, 12]]
```

- len(matrix)** is the number of rows in the matrix

- len(matrix[0])** is the number of columns of the matrix

**1 point**

Data  
Compression -  
Part 05 (unit?  
unit=214&less  
on=225)

1.  
Programming  
Assignment |  
Week 10  
(/noc24\_cs57/  
progassignme  
nt?name=408)

2.  
Programming  
Assignment |  
Week 10  
(/noc24\_cs57/  
progassignme  
nt?name=409)

3.  
Programming  
Assignment |  
Week 10  
(/noc24\_cs57/  
progassignme  
nt?name=410)

Quiz: Week  
10 :  
Assignment  
10  
(assessment?  
name=439)

Week 10  
Feedback  
Form: The Joy  
of Computing  
using Python  
(unit?  
unit=214&less  
on=226)

**Week 11 ()**

**Week 12 ()**

**Text  
Transcripts ()**

**Download  
Videos ()**

**Books ()**

- The dimension of matrix is  $4 \times 3$   
 The dimension of matrix is  $3 \times 4$

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*len(matrix)* is the number of rows in the matrix  
*len(matrix[0])* is the number of columns of the matrix  
The dimension of matrix is  $4 \times 3$

6) L is a non-empty list of integers and x is an integer. Assume that both L and x have **1 point** already been defined. The following code does not throw any error when executed. Lines 1 and 6 will be used to refer to the state of the variables before and after key sections of the code are executed.

```
pass                      # before
count = 0
while len(L) > 0:
    L.remove(x)
    count += 1
pass                      # after
```

If the value of count is 10 at the end of the execution of the code (line 6), which of the following statements are true?

- x is an element of L at line 1.  
 L has at least two different (unequal) elements in it at line 1  
 Length of L is 10 at line 1  
 Length of L is 0 at line 6

Yes, the answer is correct.  
Score: 1

Accepted Answers:

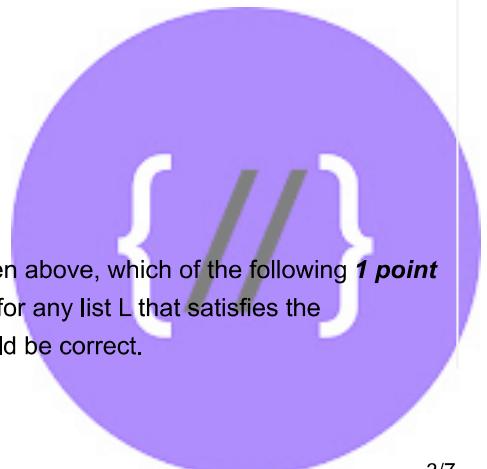
*x is an element of L at line 1.*  
*Length of L is 10 at line 1*  
*Length of L is 0 at line 6*

Assume that L is a non-empty list of positive integers. Also assume that the list is a distinct collection of numbers, i.e., no two numbers are alike. Consider the following code. Answer questions 7 and 8 based on this code.

```
S = 0
for x in L:
    S += x

flag = False
y = -1
for x in L:
    if x * len(L) == S:
        flag = True
    y = x
    break
```

7) If flag is True at the end of execution of the code given above, which of the following **1 point** statements are true? Note that the options should be true for any list L that satisfies the conditions given in the common data. Multiple options could be correct.



**Problem  
Solving  
Session -  
Jan 2024 ()**

- y is an element in the list L
- y is the greatest number in the list
- y is the average (arithmetic mean) of the numbers in the list
- y is the element at index `len(L) // 2` in the list L

No, the answer is incorrect.

Score: 0

Accepted Answers:

*y is an element in the list L*

*y is the average (arithmetic mean) of the numbers in the list*

- 8) Assume that L is a list of the first n positive integers, where  $n > 0$ . Under what conditions will the variable flag be `True` at the end of the execution of the code given above? **1 point**

- n is an odd integer
- n is an even integer
- n is a complex number
- None of the above

Yes, the answer is correct.

Score: 1

Accepted Answers:

*n is an odd integer*

- 9) Which NumPy function is used to create a matrix of a specified shape with random **0 points** values between 0 and 1?

- `np.random.randn()`
- `np.random.random()`
- `np.random.rand()`
- `np.random.randint()`

Yes, the answer is correct.

Score: 0

Accepted Answers:

*np.random.rand()*

- 10) Select the correct implementation of a program that creates a text file named pattern.txt with the following contents: **1 point**



```
az  
by  
cx  
dw  
ev  
fu  
gt  
hs  
ir  
jq  
kp  
lo  
mn  
  
○  
f = open('pattern.txt', 'r')  
  
letters = 'abcdefghijklmnopqrstuvwxyz'  
  
n = len(letters) // 2  
  
for i in range(n):  
  
    line = letters[i] + letters[-1 - i]  
  
    if i != n - 1:  
  
        line = line + '\n'  
  
    f.write(line)  
  
f.close()
```



```
f = open('pattern.txt', 'w')

letters = 'abcdefghijklmnopqrstuvwxyz'

n = len(letters) // 2

for i in range(n):

    line = letters[i] + letters[-1 - i]

    f.write(line)

f.close()

f = open('pattern.txt', 'w')

letters = 'abcdefghijklmnopqrstuvwxyz'

n = len(letters) // 2

for i in range(n):

    line = letters[i] + letters[-1 - i]

    if i != n - 1:

        line = line + '\n'

    f.write(line)

f.close()
```



```
f = open('pattern.txt', 'w')

letters = 'abcdefghijklmnopqrstuvwxyz'

n = len(letters)

for i in range(n):

    line = letters[i] + letters[-1 - i]

    if i != n - 1:

        line = line + '\n'

    f.write(line)

f.close()
```

Yes, the answer is correct.

Score: 1

Accepted Answers:

```
f = open('pattern.txt', 'w')

letters = 'abcdefghijklmnopqrstuvwxyz'

n = len(letters) // 2

for i in range(n):

    line = letters[i] + letters[-1 - i]

    if i != n - 1:

        line = line + '\n'

    f.write(line)

f.close()
```



X



(<https://swayam.gov.in>)



([https://swayam.gov.in/nc\\_details/NPTEL](https://swayam.gov.in/nc_details/NPTEL))

amazonking616@gmail.com ▾

NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » The Joy of Computing using Python (course)

≡

If already registered, click to check your payment status

## Week 11 : Assignment 11

The due date for submitting this assignment has passed.

**Due on 2024-04-10, 23:59 IST.**

Course outline

About NPTEL ()

How does an NPTEL online course work? ()

Week 0 ()

Week 1 ()

Week 2 ()

Week 3 ()

week 4 ()

Week 5 ()

Week 6 ()

Week 7 ()

**Assignment submitted on 2024-04-01, 21:55 IST**

1) Select the correct statement regarding selenium library 1 point

- Selenium is primarily used for web browser automation
- The web driver in selenium allows a way to interact with web browsers
- The Keys Class provides a set of special keys that can be used for keyboard interaction
- All of the above

Yes, the answer is correct.

Score: 1

Accepted Answers:

*All of the above*

2) Which of the following tasks in WhatsApp can be automated using selenium? 1 point

- Sending Media Files
- Reading Messages
- Creating and Managing Groups
- Updating Profile Information

Yes, the answer is correct.

Score: 1

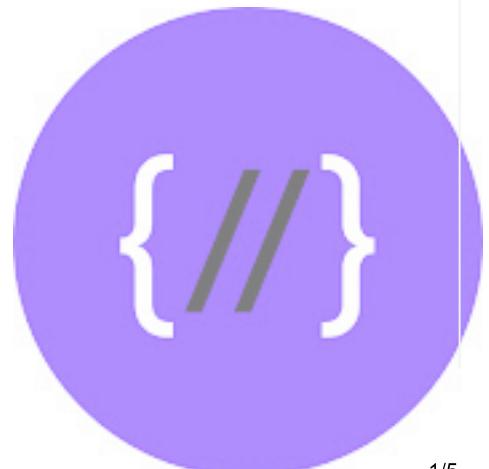
Accepted Answers:

*Sending Media Files*

*Reading Messages*

*Creating and Managing Groups*

*Updating Profile Information*



**Week 8 ()****Week 9 ()****Week 10 ()****Week 11 ()**

- Browser Automation Watsapp using Python - Part 01 (unit? unit=227&less on=228)

- Browser Automation Watsapp using Python - Part 02 (unit? unit=227&less on=229)

- Browser Automation Watsapp using Python - Part 03 (unit? unit=227&less on=230)

- Browser Automation Watsapp using Python - Part 04 (unit? unit=227&less on=231)

- Fun with Calendar - Part 01 (unit? unit=227&less on=232)

- Fun with Calendar - Part 02 (unit? unit=227&less on=233)

- Fun with Calendar - Part 03 (unit? unit=227&less on=234)

3) Read the given code and identify the correct statement.

**1 point**

```

1 import pytz
2
3 def does_something():
4     variable = [tz for tz in pytz.all_timezones if tz.startswith('Asia')]
5     return variable
6
7 x = does_something()
8 for _ in x:
9     print(_)
10

```

- does\_something returns a list of all time zones in Asia  
 the above code prints all time zones in Asia  
 The output of the code can change depending on the version of pytz used  
 All of the above

Yes, the answer is correct.

Score: 1

Accepted Answers:

*All of the above*

4) Read the given code. What is the output of does\_something(2022,2,29).(NAT)

```

import calendar

def does_something(year, month, day):
    variable = calendar.monthrange(year,month)

    return int(1<= day<= variable[1])

```

0

Yes, the answer is correct.

Score: 1

Accepted Answers:

(Type: String) 0

**1 point**

5) Read the given code.

```

def checks_something(year):
    return (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0)

# Read years from a text file
file_path = 'years.txt'
with open(file_path, 'r') as file:
    years = [int(line.strip()) for line in file]

count = sum(1 for year in years if checks_something(year))

```

Assume the file years.txt contains the following data.

- Fun with Calendar - Part 04 (unit? unit=227&less on=235)

```
2000
2007
2004
2009
2001
```

What is the output of the code (NAT)

Yes, the answer is correct.

Score: 1

Accepted Answers:

(Type: String) 2

**1 point**

- Fun with Calendar - Part 05 (unit? unit=227&less on=236)
- Fun with Calendar - Part 06 (unit? unit=227&less on=237)

- Fun with Calendar - Part 07 (unit? unit=227&less on=238)

- Fun with Calendar - Part 08 (unit? unit=227&less on=239)

- Fun with Calendar - Part 09 (unit? unit=227&less on=240)

- Fun with Calendar - Part 10 (unit? unit=227&less on=241)

- Fun with Calendar - Part 11 (unit? unit=227&less on=242)

- Fun with Calendar - Part 12 (unit? unit=227&less on=243)

- 1.  
Programming Assignment |  
Week 11  
(/noc24\_cs57/)

6) Read the given code.

```
1 import calendar
2
3 def count_something(year):
4     count = 0
5
6     for month in range(1, 13):
7
8         day_of_week = calendar.weekday(year, month, 13)
9         if day_of_week == calendar.FRIDAY:
10             count += 1
11
12     return count
13
```

Enter the value of int(count\_something(1996)==count\_something(2024))

Yes, the answer is correct.

Score: 1

Accepted Answers:

(Type: String) 1

**1 point**

7) Read the given code.

```
1 def count_(s, e):
2     count = 0
3
4     for year in range(s, e + 1):
5         if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
6             count += 1
7
8     return count
9
```

Enter the value returned by count\_(1990,2024)

Yes, the answer is correct.



progassignme  
nt?name=423)

2.  
Programming  
Assignment |  
Week 11  
(/noc24\_cs57/  
progassignme  
nt?name=424)

3.  
Programming  
Assignment |  
Week 11  
(/noc24\_cs57/  
progassignme  
nt?name=425)

**Quiz: Week 11**  
: Assignment  
11  
(assessment?  
name=440)

Week 11  
Feedback  
Form: The Joy  
of Computing  
using Python  
(unit?  
unit=227&less  
on=244)

**Week 12 ()**

**Text**  
**Transcripts ()**

**Download**  
**Videos ()**

**Books ()**

**Problem**  
**Solving**  
**Session -**  
**Jan 2024 ()**

Score: 1

Accepted Answers:  
(Type: String) 9

**1 point**

- 8) In addition to the first birthday celebration, Koreans often celebrate "MiSeDol," which marks the completion of the 100th day after a baby's birth. This is considered another significant milestone. Given an input birthdate, the following code tries to calculate the date of "MiSeDol", but the code might contain errors. Identify the line number corresponding to the error. In the absence of an error answer -1.

```
1 from datetime import datetime,timedelta
2
3 def calculate_(year, month , day):
4
5     input_date = datetime(year, month, day)
6     date= input_date +timedelta(days=99)
7
8     year =date.year
9     month=date.month
10    day=date.day
11
12    return year, month ,day
13
```

-1

No, the answer is incorrect.

Score: 0

Accepted Answers:  
(Type: String) 6

**0 points**

- 9) Read the given code.

Find the value returned by finds\_something (2000,12)

```
import calendar

def finds_something(year, month):
    first_day_of_month = calendar.weekday(year,month,1)

    x=(first_day_of_month+1)%7

    return x
```

5

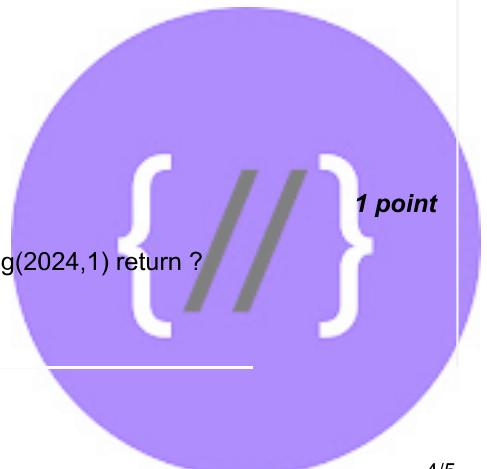
Yes, the answer is correct.

Score: 1

Accepted Answers:  
(Type: String) 5

**1 point**

- 10) Read the following code. What does count\_something(2024,1) return ?



```
import calendar
def count_something(year, month):
    x,y=calendar.monthrange(year,month)
    last_day=y
    count=0
    for day in range(1, last_day+1):
        if calendar.weekday(year,month,day)<5 :
            count+=1

    return count
```

23

Yes, the answer is correct.

Score: 1

Accepted Answers:

(Type: String) 23

1 point



X



(https://swayam.gov.in)



(https://swayam.gov.in/nc\_details/NPTEL)

amazonking616@gmail.com ▾

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » The Joy of Computing using Python (course)

≡

If already registered, click to check your payment status

## Week 12 : Assignment 12

The due date for submitting this assignment has passed.

**Due on 2024-04-17, 23:59 IST.**

Course outline

About NPTEL ()

How does an NPTEL online course work? ()

Week 0 ()

Week 1 ()

Week 2 ()

Week 3 ()

week 4 ()

Week 5 ()

Week 6 ()

Week 7 ()

**Assignment submitted on 2024-04-07, 22:24 IST**

1) Which of the following is NOT a factor considered in Google's current search algorithms? **1 point**

- PageRank
- Content relevance
- User experience
- None of the above

Yes, the answer is correct.  
Score: 1

Accepted Answers:  
*None of the above*

2) In a weighted social network graph, what might the edge weights represent? **1 point**

- The time of interaction between users
- The strength of a relationship
- The number of shared interests
- All of the above

Yes, the answer is correct.  
Score: 1

Accepted Answers:  
*All of the above*

3) What is the purpose of a random walk in graph analysis? **1 point**

- To find the shortest path between two nodes



**Week 8 ()**

- To explore the entire graph and discover its properties
- To prioritize nodes based on their degree
- To determine the central node in the graph

**Week 9 ()**

Yes, the answer is correct.

Score: 1

Accepted Answers:

*To explore the entire graph and discover its properties***Week 10 ()**

4) Which of the following are real-world applications of directed graphs? (MSQ)

**1 point**

- Social Media Friendship Graph
- Family Tree
- Linking of Websites
- Airline Route Representation
- Königsberg bridge problem

**Week 11 ()**

Partially Correct.

Score: 0.5

Accepted Answers:

*Social Media Friendship Graph**Family Tree**Linking of Websites**Airline Route Representation***Week 12 ()****● Page Rank -**

How does  
Google Work ?  
- Part 01 (unit?  
unit=245&less  
on=246)

**● Page Rank -**

How does  
Google Work ?  
- Part 02 (unit?  
unit=245&less  
on=247)

**● Page Rank -**

How does  
Google Work ?  
- Part 03 (unit?  
unit=245&less  
on=248)

**● Page Rank -**

How does  
Google Work ?  
- Part 04 (unit?  
unit=245&less  
on=249)

**○ Page Rank -**

How does  
Google Work ?  
- Part 05 (unit?  
unit=245&less  
on=250)

**○ Page Rank -**

How does  
Google Work ?  
- Part 06 (unit?  
unit=245&less  
on=251)

**○ Page Rank -**

How does  
Google Work ?  
- Part 07 (unit?

5) Read the given code. Enter the number of elements in incoming\_edges\_D(NAT)

```
import networkx as nx
import matplotlib.pyplot as plt

# Create a weighted directed graph
G = nx.DiGraph()

# Add edges with weights
G.add_edge('A', 'B', weight=3)
G.add_edge('A', 'C', weight=2)
G.add_edge('B', 'D', weight=5)
G.add_edge('C', 'D', weight=1)
G.add_edge('D', 'E', weight=4)

# Display incoming edges for node 'D'
incoming_edges_D = G.in_edges('D')
print("Incoming Edges to Node 'D':", incoming_edges_D)
```

2

Yes, the answer is correct.

Score: 1

Accepted Answers:

*(Type: String) 2*

unit=245&less  
on=252)

**1 point**

Page Rank -  
How does  
Google Work ?  
- Part 08 (unit?  
unit=245&less  
on=253)

6) Which of the following statements about PageRank is true?

**1 point**

- It only considers the number of links, not their weights
- All web pages start with the same initial PageRank score
- PageRank is the only factor that determines search engine rankings
- None of the above

Page Rank -  
How does  
Google Work ?  
- Part 09 (unit?  
unit=245&less  
on=254)

Yes, the answer is correct.

Score: 1

Accepted Answers:

*All web pages start with the same initial PageRank score*

Page Rank -  
How does  
Google Work ?  
- Part 10 (unit?  
unit=245&less  
on=255)

7) In the Collatz sequence, if a starting value is a power of 2, how many iterations are **1 point** needed to reach the cycle (4, 2, 1)?

- One iteration
- Number of Iterations would be logarithmic in the size of the starting value
- Number of Iterations would be linear in the size of the starting value
- None of the above

Page Rank -  
How does  
Google Work ?  
- Part 11 (unit?  
unit=245&less  
on=256)

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Number of Iterations would be logarithmic in the size of the starting value*

Page Rank -  
How does  
Google Work ?  
- Part 12 (unit?  
unit=245&less  
on=257)

8) For how many positive integers below 200 does the Collatz sequence not reach 1? **1 point**

- 0
- 25
- 10
- 20

Page Rank -  
How does  
Google Work ?  
- Part 13 (unit?  
unit=245&less  
on=258)

Yes, the answer is correct.

Score: 1

Accepted Answers:

0

Page Rank -  
How does  
Google Work ?  
- Part 14 (unit?  
unit=245&less  
on=259)

9) Which of the following statements is true about the Collatz conjecture? **1 point**

- It has been proven to be true for all positive integers.
- It is known to be false for certain classes of numbers.
- It remains an open problem, and its status is unknown.
- It only applies to prime numbers.

Page Rank -  
How does  
Google Work ?  
- Part 15 (unit?  
unit=245&less  
on=260)

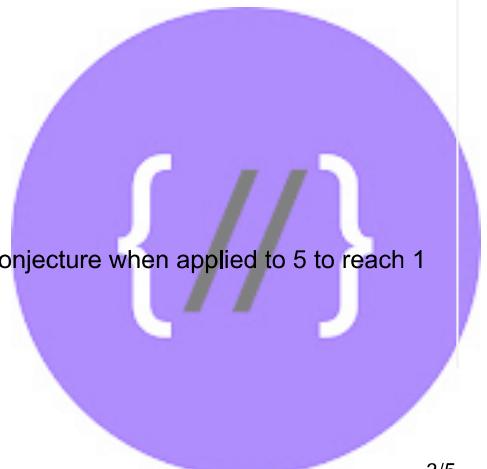
Yes, the answer is correct.

Score: 1

Accepted Answers:

*It remains an open problem, and its status is unknown.*

10) Find the number of sequences required for Collatz Conjecture when applied to 5 to reach 1 (NAT)



- Page Rank -  
How does  
Google Work ?  
- Part 16 (unit?  
unit=245&less  
on=261)

6

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
(Type: String) 5

1 point

- Collatz  
Conjecture -  
Part 01 (unit?  
unit=245&less  
on=262)

- Collatz  
Conjecture -  
Part 02 (unit?  
unit=245&less  
on=263)

- JOC  
Conclusion  
(unit?  
unit=245&less  
on=264)

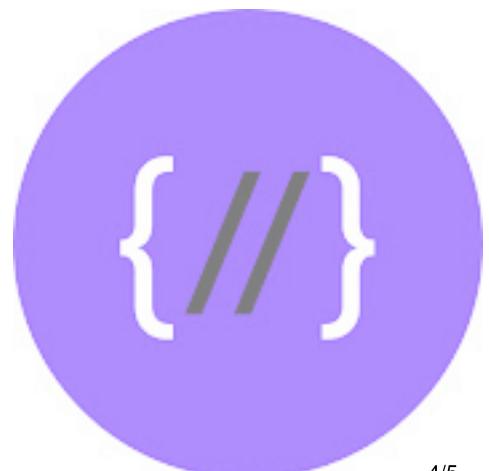
- Week 12  
Feedback  
Form: The Joy  
of Computing  
using Python  
(unit?  
unit=245&less  
on=265)

- Quiz: Week  
**12 :**  
**Assignment**  
**12**  
**(assessment?**  
**name=441)**

- 1.  
Programming  
Assignment |  
Week 12  
(/noc24\_cs57/  
progassignme  
nt?name=427)

- 2.  
Programming  
Assignment |  
Week 12  
(/noc24\_cs57/  
progassignme  
nt?name=428)

- 3.  
Programming



Assignment |  
Week 12  
(/noc24\_cs57/  
progassignme  
nt?name=429)

---

**Text**  
**Transcripts ()**

---

**Download**  
**Videos ()**

---

**Books ()**

---

**Problem**  
**Solving**  
**Session -**  
**Jan 2024 ()**

