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Week 4 : Assignment

The due date for submitting this assignment has passed.

Due on 2023-08-23, 23:59 IST.

Assignment submitted on 2023-08-15, 19:38 IST

1) What is a magic square? ***1 point***

- A square grid of letters
- (•) A square grid of numbers where the sum of the rows, columns, & diagonals are equal
- A special kind of card trick
- A term used in cryptography

Yes, the answer is correct.
Score: 1

Accepted Answers:
A square grid of numbers where the sum of the rows, columns, & diagonals are equal

2) In a 3x3 magic square, what is the magic constant? ***1 point***

- 3
- 6
- 9
- (•) 15

Yes, the answer is correct.
Score: 1

Accepted Answers:
15

3) Which of the following is NOT a property of a magic square? ***1 point***

- The sum of each row is equal
- The sum of each column is equal
- The sum of each diagonal is equal
- The sum of each individual element is equal

Yes, the answer is correct.
Score: 1

Accepted Answers:
The sum of each individual element is equal

4) What will be the output of the following code? ***0 points***

```
import string
import random

A = string.ascii_letters

n = int(input())

for i in range(n):
    L = []
    for j in range(n):
        L.append(random.choice(A))

    for element in L:
        print(element, end=('\t'))

    print()
```

- A magic square of size 2.
- A magic square of size n.
- A magic square of an even size.
- A magic square of an odd size.

Yes, the answer is correct.
Score: 0

Accepted Answers:
A magic square of size n.

5) What will be the output of the following code? ***1 point***

```
import random

L = []
for i in range(10):
    L.append(random.randint(0, 10))

L.sort()
L.reverse()

print(L)
```

- (selected) Sorted List(L) containing random elements between 0-10 in descending order.
- Sorted List containing random elements between 0-10 in ascending order.
- Sorted List containing elements between 0-10.
- Sorted List containing elements between 0-9 in ascending order.

Yes, the answer is correct.
Score: 1

Accepted Answers:
Sorted List(L) containing random elements between 0-10 in descending order.

6) Which code will generate all prime numbers between 0-100? ***1 point***

```
for i in range(2,101):
    flag=0
    for j in range(2, 101):
        if(i%j == 0):
            flag=1
            break
    if(flag == 0):
        print(i)
```

(selected)

```
for i in range(2,101):
    flag=0
    for j in range(2, i):
        if(i%j == 0):
            flag=1
            break
    if(flag == 0):
        print(i)
```

```
for i in range(2,101):
    flag=0
    for j in range(2, i+1):
        if(i%j == 0):
            flag=1
            break
    if(flag == 0):
        print(i)
```

```
for i in range(101):
    flag=0
    for j in range(2, i):
        if(i%j == 0):
            flag=1
            break
    if(flag == 0):
        print(i)
```

Yes, the answer is correct.
Score: 1
Accepted Answers:

```
for i in range(2,101):
    flag=0
    for j in range(2, i):
        if(i%j == 0):
            flag=1
            break
    if(flag == 0):
        print(i)
```

7) In the birthday paradox, as the number of people in a group increases, what happens to the probability that two people share a birthday? ***1 point***

- It increases
- It decreases
- It stays the same
- It becomes impossible

Yes, the answer is correct.
Score: 1
Accepted Answers:
It increases

8) Which module is used to generate random numbers in Python? ***1 point***

- math
- random
- stats
- numpy

Yes, the answer is correct.
Score: 1

Accepted Answers:
random

9) Which function is used to shuffle a list in Python? ***1 point***

- random.shuffle()
- shuffle()
- list.shuffle()
- random_list()

Yes, the answer is correct.
Score: 1

Accepted Answers:
random.shuffle()

10) What is the output of the following code? ***1 point***

```
import random

nums = [1, 2, 3, 4, 5]
random.shuffle(nums)
print(nums)
```

- [1, 2, 3, 4, 5]
- [5, 4, 3, 2, 1]
- A random ordering of the numbers 1 through 5
- An error

Yes, the answer is correct.
Score: 1

Accepted Answers:
A random ordering of the numbers 1 through 5