Week 4: Assignment 4

The due date for submitting this assignment has passed.

Due on 2023-02-22, 23:59 IST.

Assignment submitted on 2023-02-16, 10:30 IST

1) Which of the following statements are true with regards to magic square? ***1 point***

- [x] The sum of each row should be m.
- [x] The sum of each column should be m.
- [x] The sum of each diagonal should be m.
- [ ] None of the above.

Yes, the answer is correct.
Score: 1

Accepted Answers:
The sum of each row should be m.
The sum of each column should be m.
The sum of each diagonal should be m.

2) Which of the following statements hold true about N in the magic square? N denotes the number of rows and columns in the square. ***1 point***

- ( ) N should be even.
- (•) N should be odd.
- ( ) N can be even or odd.
- ( ) N can take any value.

Yes, the answer is correct.
Score: 1

Accepted Answers:
N should be odd.

3) Which of the following statements are true regarding the Magic Squares? (N = Number of rows or columns) ***1 point***

- [x] A Magic Square is always a square matrix.
- [ ] A Magic Square can or cannot be a square matrix.

- [ ] The Sum of each row and each column is N(N+1)/2
- [x] The Sum of each row and each column is $N(N^2+1)/2$.

Yes, the answer is correct.
Score: 1
Accepted Answers:
A Magic Square is always a square matrix.
The Sum of each row and each column is $N(N^2+1)/2$.

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

```
'''
This is a sentence
'''
```

- ( ) This is a sentence.
- ( ) Error
- (•) No output
- ( ) The program will not run.

Yes, the answer is correct.
Score: 1
Accepted Answers:
No output

5) Which of the following operator is used to raise the exponent to a number? ***1 point***

- ( ) ^
- ( ) *
- (•) **
- ( ) ***

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

6) Suppose there is a movie with 3 letters, how many combinations of names are possible? ***1 point***

- ( ) 26
- ( ) 676
- (•) 17576
- ( ) 456976

Yes, the answer is correct.
Score: 1
Accepted Answers:
17576

7) What should be the value of a, b, c, d respectively? ***1 point***

6	a	8
b	5	c
2	d	4

- ( ) 1,3,9,7
- ( ) 9,3,7,1

- 1,7,3,9
- 7,3,9,1

Yes, the answer is correct.
Score: 1
Accepted Answers:
1,7,3,9

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

```
L1 = ['harry potter', 'matrix', 'spiderman', 'avengers', 'john wick']
L2= ['drishyam', 'spiderman', 'bahubali', 'dhoom', 'race', 'matrix']

L = []


for i in range(len(L1)):

    flag = 0

    for j in range(len(L2)):

        if(L1[i] == L2[j]):
            flag = 1
            break
        else:
            flag = 0

    if(flag == 0):
        L.append(L1[i])

print(L)
```

- Print unique movies of list L1
- Print unique movies of list L2
- Print unique movies of list L1 and L2
- Shows an error

Yes, the answer is correct.
Score: 1
Accepted Answers:
Print unique movies of list L1

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

```
for i in range(5,20):
    if(i%5 == 0):
        print(i**2)
```

- Print all perfect squares with square roots between 5-20 and divisible by 5.
- Print all perfect squares with square roots between 5-20 and not divisible by 5.
- Print all perfect squares with square roots between 5-19 and not divisible by 5.
- Print all perfect squares with square roots between 5-19 and divisible by 5.

Yes, the answer is correct.
Score: 1
Accepted Answers:
Print all perfect squares with square roots between 5-19 and divisible by 5.

10) A perfect number is a positive integer that is equal to the sum of its positive divisors, excluding the number itself. For example, 6 is a perfect number as the sum of its divisors 1,2,3 is equal to 6. ***1 point***
Which function will return True if the number is a perfect number?

```
def perfect_number(num):
    ans=0
    for i in range(1,num):
        if(num%i==0):
            ans = ans + i
    if(ans==num):
        return True
    else:
        return False
```

```
def perfect_number(num):
    ans=0
    for i in range(1,num):
        if(num%i==0):
            ans+=i
    if(ans==num):
        return False
    else:
        return True
```

```
def perfect_number(num):
    ans=0
    for i in range(3,num):
        if(num%i==0):
            ans = ans + i
    if(ans==num):
        return True
    else:
        return False
```

```
def perfect_number(num):
    ans=0
    for i in range(1,num):
        if(num%i==0):
            ans = ans + i
    if(ans!=num):
        return True
    else:
        return False
```

Yes, the answer is correct.
Score: 1

Accepted Answers:

```
def perfect_number(num):
    ans=0
    for i in range(1,num):
        if(num%i==0):
            ans = ans + i
    if(ans==num):
        return True
    else:
        return False

```