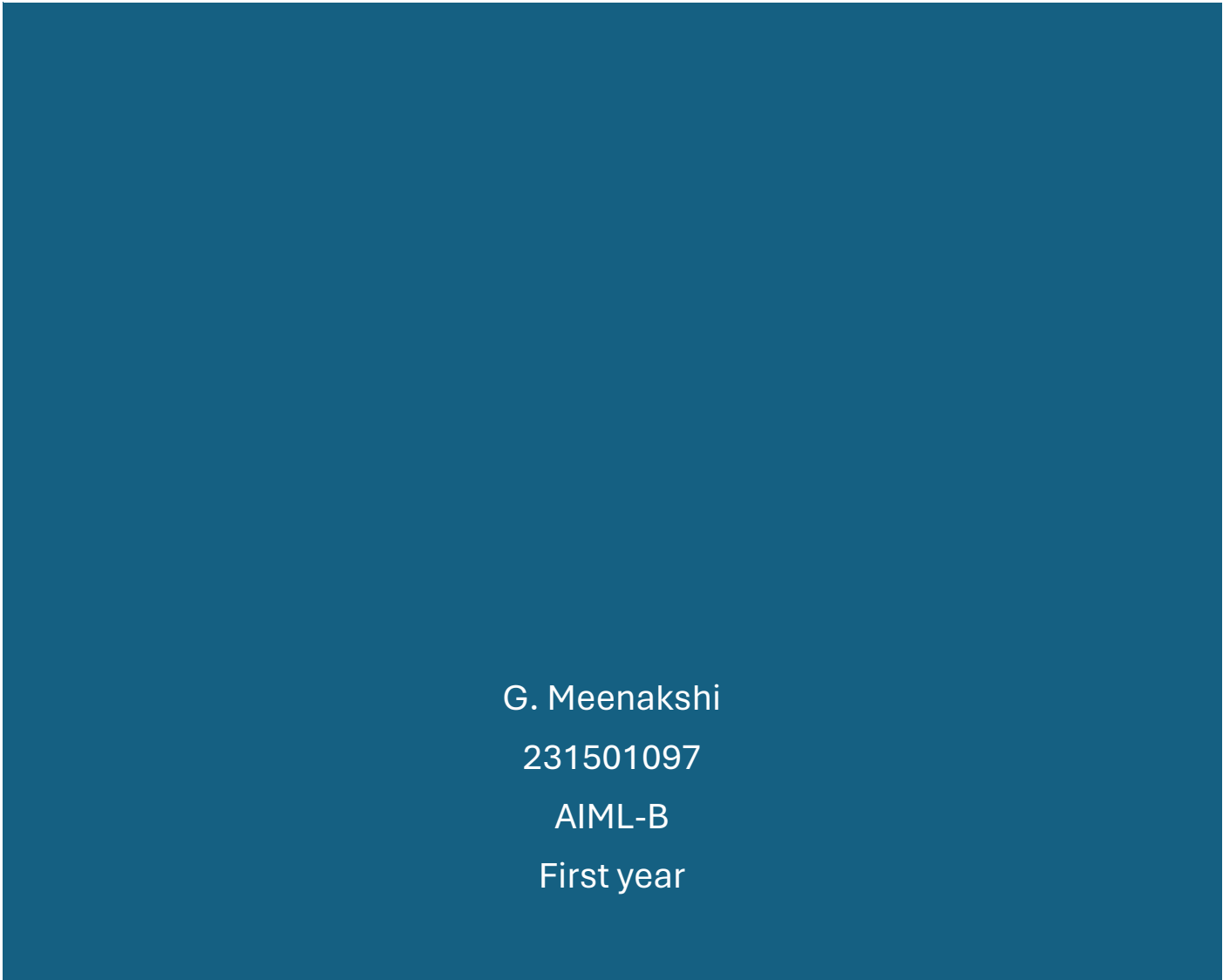


PYTHON MOODLE CODES: WEEK 9 [CS23231]



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231501097
AIML-B
First year

Week9_Coding: Attempt review

118.185.187.137/moodle/mod/quiz/review.php?attempt=103411&cmid=1080

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Question 1
Correct
Mark 1.00 out of 1.00
Flag question

An automorphic number is a number whose square ends with the number itself.
For example, 5 is an automorphic number because $5^2 = 25$. The last digit is 5 which same as the given number.
If the number is not valid, it should display "Invalid input".
If it is an automorphic number display "Automorphic" else display "Not Automorphic".
Input Format:
Take a Integer from Stdin Output Format: Print Automorphic if given number is Automorphic number, otherwise Not Automorphic Example input: 5
Output: Automorphic Example input: 25 Output: Automorphic Example input: 7 Output: Not Automorphic

For example:

Test	Result
print(automorphic(5))	Automorphic

Answer: (penalty regime: 0 %)

Reset answer

```
1 def automorphic(n):
2     # Check for invalid input
3     if not isinstance(n, int) or n < 0:
4         return "Invalid input"
5
6     # Compute the square of the number
7     square = n * n
8
9     # Check if the number is automorphic
10    if str(square).endswith(str(n)):
11        return "Automorphic"
12    else:
13        return "Not Automorphic"
```

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```
4     return "Invalid input"
5
6     # Compute the square of the number
7     square = n * n
8
9     # Check if the number is automorphic
10    if str(square).endswith(str(n)):
11        return "Automorphic"
12    else:
13        return "Not Automorphic"
14
```

Test	Expected	Got
✓ print(automorphic(5))	Automorphic	Automorphic ✓
✓ print(automorphic(7))	Not Automorphic	Not Automorphic ✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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Question 2
Correct
Mark 1.00 out of 1.00
Flag question

Write a code to check whether product of digits at even places is divisible by sum of digits at odd place of a positive integer.

Input Format:
Take an input integer from stdin.

Output Format:
Print TRUE or FALSE.

Example Input:
1256
Output:
TRUE
Example Input:
1595
Output:
FALSE

For example:

Test	Result
print(productDigits(1256))	True
print(productDigits(1595))	False

Answer: (penalty regime: 0 %)
Reset answer

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Answer: (penalty regime: 0 %)
Reset answer

```
1 def productDigits(n):
2     num_str = str(n)
3
4     sum_odd = 0
5     product_even = 1
6     has_even = False
7
8     # Iterate over the digits
9     for i in range(len(num_str)):
10        digit = int(num_str[i])
11        # Digits at odd places (1st, 3rd, 5th, ...)
12        if i % 2 == 0:
13            sum_odd += digit
14        # Digits at even places (2nd, 4th, 6th, ...)
15        else:
16            product_even *= digit
17            has_even = True
18
19    # If there are no digits at even places, product_even should be considered as 1
20    if not has_even:
21        product_even = 1
22
23    # Check divisibility
24    if sum_odd == 0:
25        return "False"
26    elif product_even % sum_odd == 0:
27        return "True"
28    else:
29        return "False"
30
```

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```
19 # If there are no digits at even places, product_even should be considered as 1
20 if not has_even:
21     product_even = 1
22
23 # Check divisibility
24 if sum_odd == 0:
25     return "False"
26 elif product_even % sum_odd == 0:
27     return "True"
28 else:
29     return "False"
30
```

Test	Expected	Got
✓ print(productDigits(1256))	True	True ✓
✓ print(productDigits(1595))	False	False ✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question 3
Correct
Mark 1.00 out of 1.00
Flag question

An e-commerce company plans to give their customers a special discount for Christmas. They are planning to offer a flat discount. The discount value is calculated as the sum of all the prime digits in the total bill amount.

Write an algorithm to find the discount value for the given total bill amount.

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Question 3
Correct
Mark 1.00 out of 1.00
Flag question

An e-commerce company plans to give their customers a special discount for Christmas. They are planning to offer a flat discount. The discount value is calculated as the sum of all the prime digits in the total bill amount.

Write an algorithm to find the discount value for the given total bill amount.

Constraints

1 <= orderValue < 10e100000

Input

The input consists of an integer orderValue, representing the total bill amount.

Output

Print an integer representing the discount value for the given total bill amount.

Example Input

578

Output

12

For example:

Test	Result
print(christmasDiscount(578))	12

Answer: (penalty regime: 0 %)

Reset answer

```
1 def christmasDiscount(n):
2     # Define the set of prime digits
```

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Reset answer

```
1. def christmasDiscount(n):
2.     # Define the set of prime digits
3.     prime_digits = {'2', '3', '5', '7'}
4.
5.     # Initialize the discount value
6.     discount_value = 0
7.
8.     # Iterate through each character in the order value string
9.     for digit in str(n):
10.         if digit in prime_digits:
11.             discount_value += int(digit)
12.
13.     return discount_value
14.
15.
```

Test	Expected	Got
✓ print(christmasDiscount(578))	12	12 ✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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Question 4

Correct

Mark 1.00 out of 1.00

Flag question

An abundant number is a number for which the sum of its proper divisors is greater than the number itself. Proper divisors of the number are those that are strictly lesser than the number.

Input Format:

Take input an integer from stdin

Output Format:

Return Yes if given number is Abundant. Otherwise, print No

Example input:

12

Output:

Yes

Explanation

The proper divisors of 12 are: 1, 2, 3, 4, 6, whose sum is $1 + 2 + 3 + 4 + 6 = 16$. Since sum of proper divisors is greater than the given number, 12 is an abundant number.

Example input:

13

Output:

No

Explanation

The proper divisors of 13 is: 1, whose sum is 1. Since sum of proper divisors is not greater than the given number, 13 is not an abundant number.

For example:

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For example:

Test	Result
print(abundant(12))	Yes
print(abundant(13))	No

Answer: (penalty regime: 0 %)

Reset answer

```
1 def abundant(n):
2     # Calculate the sum of proper divisors
3     sum_divisors = 0
4
5     # Proper divisors are numbers less than n that divide n evenly
6     for i in range(1, n):
7         if n % i == 0:
8             sum_divisors += i
9
10    # Check if the sum of proper divisors is greater than the number itself
11    if sum_divisors > n:
12        return "Yes"
13    else:
14        return "No"
15
16
```

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```
8     sum_divisors += i
9
10    # Check if the sum of proper divisors is greater than the number itself
11    if sum_divisors > n:
12        return "Yes"
13    else:
14        return "No"
15
16
```

Test	Expected	Got
✓ print(abundant(12))	Yes	Yes ✓
✓ print(abundant(13))	No	No ✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question 5
Correct
Mark 1.00 out of

A number is considered to be ugly if its only prime factors are 2, 3 or 5.
[1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 15, ...] is the sequence of ugly numbers.

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Question 5

Correct

Mark 1.00 out of 1.00

Flag question

A number is considered to be ugly if its only prime factors are 2, 3 or 5.

[1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 15, ...] is the sequence of ugly numbers.

Task:

complete the function which takes a number n as input and checks if it's an ugly number.

return ugly if it is ugly, else return not ugly

Hint:

An ugly number U can be expressed as: $U = 2^a * 3^b * 5^c$, where a, b and c are nonnegative integers.

For example:

Test	Result
print(checkUgly(6))	ugly
print(checkUgly(21))	not ugly

Answer: (penalty regime: 0 %)

Reset answer

```
1 def checkUgly(n):
2     if n <= 0:
3         return "not ugly"
4
5     # Divide n by 2, 3, and 5 as long as it is divisible by these numbers
6     for factor in [2, 3, 5]:
7         while n % factor == 0:
8             n //= factor
9
10    # If after dividing by 2, 3, and 5 the number becomes 1, it is an ugly number
11    return "ugly" if n == 1 else "not ugly"
12
```

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10

11

12

13

```
10 # If after dividing by 2, 3, and 5 the number becomes 1, it is an ugly number
11 return "ugly" if n == 1 else "not ugly"
12
13
```

Test	Expected	Got	
✓ print(checkUgly(6))	ugly	ugly	✓
✓ print(checkUgly(21))	not ugly	not ugly	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Finish review

Week9_MCQ

Jump to...

Week10_MCQ

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