

# GE19211 / GE23233 / GE23231 - PSPP/PUP

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Started on	Monday, 27 May 2024, 12:33 AM
State	Finished
Completed on	Monday, 27 May 2024, 12:38 AM
Time taken	5 mins 20 secs
Marks	5.00/5.00
Grade	100.00 out of 100.00

Question **1**

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

```
1 def productDigits(number):
2     num_str = str(number)
3     product_even = 1
4     sum_odd = 0
5     for i in range(len(num_str)):
6         digit = int(num_str[i])
7         if (i + 1) % 2 == 0:
8             product_even *= digit
9         else:
10            sum_odd += digit
11    if sum_odd == 0:
12        return False
13    return product_even % sum_odd == 0
14
15 if __name__ == "__main__":
16     try:
17         number = int(input())
18         if productDigits(number):
19             print("TRUE")
20         else:
21             print("FALSE")
22     except EOFError:
23         pass
24     except ValueError:
25         print("ValueError: Invalid input. Please enter a positive integer.")
26
```

	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 **2**

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     A = {'2', '3', '5', '7'}
3     return sum(int(digit) for digit in str(n) if digit in A)
4
```

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

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **3**

Correct

Mark 1.00 out of 1.00

🚩 Flag question

complete function to implement coin change making problem i.e. finding the minimum

number of coins of certain denominations that add up to given amount of money.

The only available coins are of values 1, 2, 3, 4

Input Format:

Integer input from stdin.

Output Format:

return the minimum number of coins required to meet the given target.

Example input:

16

Output:

4

Explanation:

We need only 4 coins of value 4 each

Example Input:

25

Output:

7

Explanation:

We need 6 coins of 4 value, and 1 coin of 1 value

Answer: (penalty regime: 0 %)

Reset answer

```
1 def coinChange(n):
2     coins = [1, 2, 3, 4]
3     dp = [0] * [float('inf')] * n
4     for amount in range(1, n + 1):
5         dp[amount] = min(dp[amount - coin] + 1 for coin in coins if amount >= coin)
6     return dp[n]
7
```

	Test	Expected	Got	
✓	print(coinChange(16))	4	4	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **4**

Correct

Mark 1.00 out of 1.00

🚩 Flag question

Given a number with maximum of 100 digits as input, find the difference between the sum

of odd and even position digits.

Input Format:

Take a number in the form of String from stdin.

Output Format:

Print the difference between sum of even and odd digits

Example input:

1453

Output:

1

Explanation:

Here, sum of even digits is 4 + 3 = 7

sum of odd digits is 1 + 5 = 6.

Difference is 1.

Note that we are always taking absolute difference

Answer: (penalty regime: 0 %)

Reset answer

```
1 def differenceSum(n):
2     # Ensure the input is a string
3     n = str(n)
4
5     # Initialize sum of even and odd digits
6     sum_even = 0
7     sum_odd = 0
8
9     # Iterate over the digits and calculate the sum
10    for i, digit in enumerate(n):
11        # Check if the position is even or odd
12        if i % 2 == 0:
13            sum_even += int(digit)
14        else:
15            sum_odd += int(digit)
16
17    # Calculate and return the difference
18    return abs(sum_even - sum_odd)
19
20 # Read input until EOF error
21 while True:
22     try:
23         number = input()
24         print(differenceSum(number))
25     except EOFError:
26         break
27
```

	Test	Expected	Got	
✓	print(differenceSum(1453))	1	1	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **5**

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:

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

Answer: (penalty regime: 0 %)

Reset answer

```
1 def abundant(n):
2     A = sum(1 for i in range(1, n) if n % i == 0)
3     return "Yes" if A > n else "No"
4
```

	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.

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