

GE19211 / GE23233 / GE23231 - PSPP/PUP

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Started on	Saturday, 25 May 2024, 9:17 AM
State	Finished
Completed on	Saturday, 25 May 2024, 9:27 AM
Time taken	9 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

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 **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)
```

	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

An automorphic number is a number whose square ends with the number itself. For example, 5 is an automorphic number because 5*5 =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     A = n * n
3     return "Automorphic" if str(A).endswith(str(n)) else "Not Automorphic"
4
```

	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.

Question **4**

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 **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     while n % 2 == 0:
5         n //= 2
6     while n % 3 == 0:
7         n //= 3
8     while n % 5 == 0:
9         n //= 5
10    return "ugly" if n == 1 else "not ugly"
11
```

	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.

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