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Started on	Tuesday, 2 April 2024, 1:42 PM
State	Finished
Completed on	Tuesday, 2 April 2024, 2:16 PM
Time taken	33 mins 29 secs
Marks	19.00/19.00
Grade	100.00 out of 100.00

Question **1**

Correct

Mark 1.00 out of 1.00

Mr.Ram has been given a problem kindly help him to solve it. The input of the program is either 0 or 1. IF 0 is the input he should display "C" if 1 is the input it should display "D".There is a constraint that Mr. Ram should use either logical [operators](#) or arithmetic [operators](#) to solve the problem, not anything else.

Hint:

Use ASCII values of C and D.

Input Format:

An integer x, 0<=x<=1. .

Output Format:

output a single character "C" or "D"depending on the value of x.

Input 1:

0

Output 1:

C

Input 2:

1

Output 1:

D

For example:

Input	Result
0	C

Answer: (penalty regime: 0 %)

```
1 def display_character(x):
2     # If x is 0, return 'C', otherwise return 'D'
3     return 'C' if x == 0 else 'D'
4
5 # Input
6 x = int(input())
7
8 # Output
9 print(display_character(x))
10
11
```

	Input	Expected	Got	
✓	0	C	C	✓
✓	1	D	D	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **2**

Correct

Mark 1.00 out of 1.00

The program that you create for this exercise will begin by reading the cost of a meal ordered at a restaurant from the user. Then your program will compute the tax and tip for the meal. Use your local tax rate (5 percent) when computing the amount of tax owing. Compute the tip as 18 percent of the meal amount (without the tax). The output from your program should include the tax amount, the tip amount, and the grand total for the meal including both the tax and the tip. Format the output so that all of the values are displayed using two decimal places.

Sample Input

100

Sample Output

The tax is 5.00 and the tip is 18.00, making the total 123.00

For example:

Input	Result
100	The tax is 5.00 and the tip is 18.00, making the total 123.00

Answer: (penalty regime: 0 %)

```
1 # Read the cost of the meal from the user
2 meal_cost = float(input(""))
3
4 # Constants
5 tax_rate = 0.05 # 5% tax rate
6 tip_rate = 0.18 # 18% tip rate
7
8 # Compute tax amount
9 tax_amount = meal_cost * tax_rate
10
11 # Compute tip amount (without tax)
12 tip_amount = meal_cost * tip_rate
13
14 # Compute total amount including tax and tip
15 total_amount = meal_cost + tax_amount + tip_amount
16
17 # Format output
18 output = "The tax is {:.2f} and the tip is {:.2f}, making the total {:.2f}".format(tax_amount, tip_amount, total_amount)
19
20 # Output
21 print(output)
22
```

	Input	Expected	Got	
✓	100	The tax is 5.00 and the tip is 18.00, making the total 123.00	The tax is 5.00 and the tip is 18.00, making the total 123.00	✓
✓	250	The tax is 12.50 and the tip is 45.00, making the total 307.50	The tax is 12.50 and the tip is 45.00, making the total 307.50	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **3**

Correct

Mark 1.00 out of 1.00

In London, every year during Dasara there will be a very grand doll show. People try to invent new dolls of different varieties. The best-sold doll's creator will be awarded with a cash prize. So people broke their heads to create dolls innovatively. Knowing this competition, Mr.Lokpaul tried to create a doll that sings only when an even number is pressed and the number should not be zero and greater than 100.

IF Lokpaul wins print true, otherwise false.

Sample Input

10

Sample Output

True

Explanation:

Since 10 is an even number and a number between 0 and 100, True is printed

For example:

Input	Result
101	False

Answer: (penalty regime: 0 %)

```
1 def is_winner(number):
2     if number % 2 == 0 and 0 < number <= 100:
3         return True
4     else:
5         return False
6
7 # Input
8 number = int(input(""))
9
10 # Output
11 print(is_winner(number))
12
```

	Input	Expected	Got	
✓	56	True	True	✓
✓	101	False	False	✓
✓	-1	False	False	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **4**

Correct

Mark 1.00 out of 1.00

Pretend that you have just opened a new savings account that earns 4 percent interest per year. The interest that you earn is paid at the end of the year, and is added to the balance of the savings account. Write a program that begins by reading the amount of money deposited into the account from the user. Then your program should compute and display the amount in the savings account after 1, 2, and 3 years. Display each amount so that it is rounded to 2 decimal places. Sample Input: 10000 Sample Output: Balance as of end of Year 1: \$10400.00. Balance as of end of Year 2: \$10816.00. Balance as of end of Year 3: \$11248.64.

For example:

Input	Result
10000	Balance as of end of Year 1: \$10400.00. Balance as of end of Year 2: \$10816.00. Balance as of end of Year 3: \$11248.64.

Answer: (penalty regime: 0 %)

```
1 # Read the initial deposit from the user
2 initial_deposit = float(input())
3
4 # Interest rate
5 interest_rate = 4 / 100
6
7 # Iterate over each year and compute the balance
8 for year in range(1, 4): # Loop for years 1, 2, and 3
9     # Compute the balance at the end of the year
10    balance = initial_deposit * (1 + interest_rate) ** year
11    # Display the balance rounded to 2 decimal places
12    print(f"Balance as of end of Year {year}: ${balance:.2f}.")
13
```

	Input	Expected	Got	
✓	10000	Balance as of end of Year 1: \$10400.00. Balance as of end of Year 2: \$10816.00. Balance as of end of Year 3: \$11248.64.	Balance as of end of Year 1: \$10400.00. Balance as of end of Year 2: \$10816.00. Balance as of end of Year 3: \$11248.64.	✓
✓	20000	Balance as of end of Year 1: \$20800.00. Balance as of end of Year 2: \$21632.00. Balance as of end of Year 3: \$22497.28.	Balance as of end of Year 1: \$20800.00. Balance as of end of Year 2: \$21632.00. Balance as of end of Year 3: \$22497.28.	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **5**

Correct

Mark 1.00 out of 1.00

Mr. X's birthday is in next month. This time he is planning to invite N of his friends. He wants to distribute some chocolates to all of his friends after the party. He went to a shop to buy a packet of chocolates. At the chocolate shop, 4 packets are there with different numbers of chocolates. He wants to buy such a packet which contains a number of chocolates, which can be distributed equally among all of his friends. Help Mr. X to buy such a packet.

Input Given:

N-No of friends

P1,P2,P3 AND P4-No of chocolates

OUTPUT:

"True" if he can buy that packet and "False" if he can't buy that packet.

SAMPLE INPUT AND OUTPUT:

5

25

12

10

9

OUTPUT

True False True False

For example:

Input	Result
5	True False True True
25	
23	
20	
10	

Answer: (penalty regime: 0 %)

```
1 def can_buy_packet(num_friends, chocolates):
2     result = []
3     for packet in chocolates:
4         if packet % num_friends == 0:
5             result.append("True")
6         else:
7             result.append("False")
8     return result
9
10 # Input
11 num_friends = int(input())
12 chocolates = []
13 for _ in range(4):
14     chocolates.append(int(input()))
15
16 # Output
17 results = can_buy_packet(num_friends, chocolates)
18 print(" ".join(results))
19
20
```

	Input	Expected	Got	
✓	5	True False True True	True False True True	✓
	25			
	23			
	20			
	10			

	Input	Expected	Got	
✓	4 23 24 21 12	False True False True	False True False True	✓
✓	8 64 8 16 32	True True True True	True True True True	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **6**

Correct

Mark 1.00 out of 1.00

In the 1800s, the battle of Troy was led by Hercules. He was a superstitious person. He believed that his crew can win the battle only if the total count of the weapons in hand is in multiple of 3 and the soldiers are in an even number of count. Given the total number of weapons and the soldier's count, Find whether the battle can be won or not according to Hercules's belief. If the battle can be won print True otherwise print False.

Input format:

Line 1 has the total number of weapons

Line 2 has the total number of Soldiers.

Output Format:

If the battle can be won print True otherwise print False.

Sample Input:

32

43

Sample Output:'

False

For example:

Input	Result
32 43	False

Answer: (penalty regime: 0 %)

```
1 def can_win_battle(total_weapons, total_soldiers):
2     # Check if the total count of weapons is a multiple of 3 and total soldiers count is even
3     if total_weapons % 3 == 0 and total_soldiers % 2 == 0:
4         return True
5     else:
6         return False
7
8 # Input
9 total_weapons = int(input())
10 total_soldiers = int(input())
11
12 # Output
13 print(can_win_battle(total_weapons, total_soldiers))
14
```

	Input	Expected	Got	
✓	32 43	False	False	✓
✓	273 7890	True	True	✓
✓	800 4590	False	False	✓
✓	6789 32996	True	True	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **7**

Correct

Mark 1.00 out of 1.00

Write a python program that takes a integer between 0 and 15 as input and displays the number of '1' s in its binary form.
(Hint:use python bitwise operator.

Sample Input

3

Sample Output:

2

Explanation:

The binary representation of 3 is 011, hence there are 2 ones in it. so the output is 2.

For example:

Input	Result
3	2

Answer: (penalty regime: 0 %)

```
1 def count_ones(n):
2     count = 0
3     # Loop through each bit position and count the ones
4     while n:
5         count += n & 1
6         n >>= 1
7     return count
8
9 # Input
10 num = int(input())
11
12 # Output
13 print(count_ones(num))
14
15
```

	Input	Expected	Got	
✓	3	2	2	✓
✓	5	2	2	✓
✓	15	4	4	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **8**

Correct

Mark 10.00 out of 10.00

An online retailer sells two products: widgets and gizmos. Each widget weighs 75 grams. Each gizmo weighs 112 grams. Write a program that reads the number of widgets and the number of gizmos from the user. Then your program should compute and display the total weight of the parts.

[Sample](#) Input:

10
20

[Sample](#) Output:

The total weight of all these widgets and gizmos is 2990 grams.

Answer: (penalty regime: 0 %)

```
1  # Constants
2  WEIGHT_PER_WIDGET = 75 # grams
3  WEIGHT_PER_GIZMO = 112 # grams
4
5  # Read the number of widgets and gizmos from the user
6  num_widgets = int(input(""))
7  num_gizmos = int(input(""))
8
9  # Calculate the total weight
10 total_weight = (num_widgets * WEIGHT_PER_WIDGET) + (num_gizmos * WEIGHT_PER_GIZMO)
11
12 # Display the total weight
13 print("The total weight of all these widgets and gizmos is {} grams.".format(total_weight))
14
```

	Input	Expected	Got	
✓	10 20	The total weight of all these widgets and gizmos is 2990 grams.	The total weight of all these widgets and gizmos is 2990 grams.	✓

Passed all tests! ✓

Correct

Marks for this submission: 10.00/10.00.

Question **9**

Correct

Mark 1.00 out of 1.00

Write a program that returns the last digit of the given number. Last digit is being referred to the least significant digit i.e. the digit in the ones (units) place in the given number.

The last digit should be returned as a positive number.

For example,

if the given number is 197, the last digit is 7

if the given number is -197, the last digit is 7

For example:

Input	Result
197	7
-197	7

Answer: (penalty regime: 0 %)

```
1 def last_digit(number):
2     # Convert number to string to easily access the last character
3     str_number = str(number)
4     # If the number is negative, remove the negative sign before accessing the last digit
5     if str_number[0] == '-':
6         return int(str_number[-1]) # Return the last digit as a positive number
7     else:
8         return int(str_number[-1]) # Return the last digit as a positive number
9
10 # Example usage:
11 number = int(input()) # Input the number
12 print(last_digit(number)) # Output the last digit
13
```

	Input	Expected	Got	
✓	197	7	7	✓
✓	-197	7	7	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **10**

Correct

Mark 1.00 out of 1.00

Note:

Dont use if-else. [Operators](#) alone must be used .

A team from the Rotract club had planned to conduct a rally to create awareness among the Coimbatore people to donate blood. They conducted the rally successfully. Many of the Coimbatore people realized it and came forward to donate their blood to nearby blood banks. The eligibility criteria for donating blood are people should be above or equal to 18 and his/ her weight should be above 40. There was a huge crowd and staff in the blood bank found it difficult to manage the crowd. So they decided to keep a system and ask the people to enter their age and weight in the system. If a person is eligible he/she will be allowed inside.

Write a program and feed it to the system to find whether a person is eligible or not.

Input Format:

Input consists of two integers that correspond to the age and weight of a person respectively.

Output Format:

Display True(IF ELIGIBLE)

Display False (if not eligible)

Sample Input

19

45

Sample Output

True

For example:

Input	Result
18 40	False

Answer: (penalty regime: 0 %)

```
1 age = int(input())
2 weight = int(input())
3
4 # Check eligibility using logical operators
5 is_eligible = age >= 18 and weight > 40
6
7 # Output the result
8 print(is_eligible)
9
```

	Input	Expected	Got	
✓	19 45	True	True	✓
✓	18 40	False	False	✓
✓	18 42	True	True	✓

	Input	Expected	Got	
✓	16 45	False	False	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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