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<b>Started on</b>	Thursday, 28 March 2024, 12:02 PM
<b>State</b>	Finished
<b>Completed on</b>	Thursday, 28 March 2024, 7:52 PM
<b>Time taken</b>	7 hours 49 mins
<b>Marks</b>	6.00/6.00
<b>Grade</b>	<b>100.00</b> out of 100.00

**Question 1**

Correct

Mark 1.00 out of 1.00

Write a program to convert strings to an integer and float and display its type.

Sample Input:

10

10.9

Sample Output:

10,&lt;class 'int'&gt;

10.9,&lt;class 'float'&gt;

**For example:**

Input	Result
10	10,<class 'int'>
10.9	10.9,<class 'float'>

**Answer:** (penalty regime: 0 %)

```

1 a = int(input())
2 b = float(input())
3 print(a,type(a), sep=",")
4 print(round(b,1),type(b),sep=",")
```

	Input	Expected	Got	
✓	10 10.9	10,<class 'int'> 10.9,<class 'float'>	10,<class 'int'> 10.9,<class 'float'>	✓
✓	12 12.5	12,<class 'int'> 12.5,<class 'float'>	12,<class 'int'> 12.5,<class 'float'>	✓
✓	89 7.56	89,<class 'int'> 7.6,<class 'float'>	89,<class 'int'> 7.6,<class 'float'>	✓
✓	55000 56.2	55000,<class 'int'> 56.2,<class 'float'>	55000,<class 'int'> 56.2,<class 'float'>	✓
✓	2541 2541.679	2541,<class 'int'> 2541.7,<class 'float'>	2541,<class 'int'> 2541.7,<class 'float'>	✓

Passed all tests! ✓

**Correct**

Marks for this submission: 1.00/1.00.

**Question 2**

Correct

Mark 1.00 out of 1.00

Ramesh's basic salary is input through the keyboard. His dearness allowance is 40% of his basic salary, and his house rent allowance is 20% of his basic salary. Write a program to calculate his gross salary.

Sample Input:

10000

Sample Output:

16000

**For example:**

Input	Result
10000	16000

**Answer:** (penalty regime: 0 %)

```

1 basic_salary = int(input())
2 dearness_allowance =(40/100) * (basic_salary)
3 house_rent =(20/100) * (basic_salary)
4 gross_salary = int(basic_salary + dearness_allowance + house_rent)
5 print(gross_salary)
6

```

	Input	Expected	Got	
✓	10000	16000	16000	✓
✓	20000	32000	32000	✓
✓	28000	44800	44800	✓
✓	5000	8000	8000	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 3**

Correct

Mark 1.00 out of 1.00

Write a simple python program to find the square root of a given floating point number. The output should be displayed with 3 decimal places.

Sample Input:

8.00

Sample Output:

2.828

**For example:**

Input	Result
14.00	3.742

**Answer:** (penalty regime: 0 %)

```

1 a = float(input())
2 s = a ** 0.5
3 print(round(s,3))

```

	Input	Expected	Got	
✓	8.00	2.828	2.828	✓
✓	14.00	3.742	3.742	✓
✓	4.00	2.000	2.0	✓
✓	487	22.068	22.068	✓

Passed all tests! ✓

**Correct**

Marks for this submission: 1.00/1.00.

**Question 4**

Correct

Mark 1.00 out of 1.00

Alfred buys an old scooter for Rs. X and spends Rs. Y on its repairs. If he sells the scooter for Rs. Z ( $Z > X + Y$ ). Write a program to help Alfred to find his gain percent. Get all the above-mentioned values through the keyboard and find the gain percent.

Input Format:

The first line contains the Rs X

The second line contains Rs Y

The third line contains Rs Z

Sample Input:

10000

250

15000

Sample Output:

46.34 is the gain percent.

**For example:**

Input	Result
45500	30.43 is the gain percent.
500	
60000	

**Answer:** (penalty regime: 0 %)

```

1 x=int(input())
2 y=int(input())
3 expense=x+y
4 sale=int(input())
5 profit=sale-expense
6 perc= profit/expense*100
7 print(f"{perc:.2f} is the gain percent.")
8
9

```

	Input	Expected	Got	
✓	10000 250 15000	46.34 is the gain percent.	46.34 is the gain percent.	✓
✓	45500 500 60000	30.43 is the gain percent.	30.43 is the gain percent.	✓

	<b>Input</b>	<b>Expected</b>	<b>Got</b>	
✓	5000 0 7000	40.00 is the gain percent.	40.00 is the gain percent.	✓
✓	12500 5000 18000	2.86 is the gain percent.	2.86 is the gain percent.	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 5**

Correct

Mark 1.00 out of 1.00

In many jurisdictions, a small deposit is added to drink containers to encourage people to recycle them. In one particular jurisdiction, drink containers holding one liter or less have a \$0.10 deposit and drink containers holding more than one liter have a \$0.25 deposit. Write a program that reads the number of containers of each size(less and more) from the user. Your program should continue by computing and displaying the refund that will be received for returning those containers. Format the output so that it includes a dollar sign and always displays exactly two decimal places.

Sample Input

10

20

Sample Output

Your total refund will be \$6.00.

**For example:**

Input	Result
20	Your total refund will be \$7.00.
20	

**Answer:** (penalty regime: 0 %)

```

1 less=int(input())
2 more=int(input())
3 fund_less=less*0.10
4 fund_more=more*0.25
5 total_refund=fund_less+fund_more
6 print("Your total refund will be $","{:.2f}".format(total_refund),".",sep="")

```

	Input	Expected	Got	
✓	20 20	Your total refund will be \$7.00.	Your total refund will be \$7.00.	✓
✓	11 22	Your total refund will be \$6.60.	Your total refund will be \$6.60.	✓
✓	123 200	Your total refund will be \$62.30.	Your total refund will be \$62.30.	✓
✓	76 38	Your total refund will be \$17.10.	Your total refund will be \$17.10.	✓

Passed all tests! ✓

**Correct**

Marks for this submission: 1.00/1.00.

**Question 6**

Correct

Mark 1.00 out of 1.00

Justin is a carpenter who works on an hourly basis. He works in a company where he is paid Rs 50 for an hour on weekdays and Rs 80 for an hour on weekends. He works 10 hrs more on weekdays than weekends. If the salary paid for him is given, write a program to find the number of hours he has worked on weekdays and weekends.

**Hint:**

If the final result(hrs) are in -ve convert that to +ve using abs() function

The `abs()` function returns the absolute value of the given number.

```
number = -20
absolute_number = abs(number)
print(absolute_number)
# Output: 20
```

**Sample Input:**

450

**Sample Output:**

weekdays 10.38

weekend 0.38

**For example:**

Input	Result
450	weekdays 10.38 weekend 0.38

**Answer:** (penalty regime: 0 %)

```
1 sal= int(input())
2 weekend_sal=abs((sal-500)/130)
3 weekday_sal=weekend_sal+10
4 print("weekdays",f"{weekday_sal:.2f}")
5 print("weekend",f"{weekend_sal:.2f}")
```

	Input	Expected	Got	
✓	450	weekdays 10.38 weekend 0.38	weekdays 10.38 weekend 0.38	✓
✓	500	weekdays 10.00 weekend 0.00	weekdays 10.00 weekend 0.00	✓

	Input	Expected	Got	
✓	10000	weekdays 83.08 weekend 73.08	weekdays 83.08 weekend 73.08	✓
✓	6789	weekdays 58.38 weekend 48.38	weekdays 58.38 weekend 48.38	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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**Started on** Thursday, 21 March 2024, 11:01 AM**State** Finished**Completed on** Monday, 25 March 2024, 11:40 AM**Time taken** 4 days**Overdue** 2 days**Marks** 19.00/19.00**Grade** **100.00** out of 100.00**Question 1**

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 widget_weight =75
2 gizmo_weight = 112
3 num_widgets = int(input())
4 num_gizmos = int(input())
5 total_weight = (num_widgets * widget_weight) + (num_gizmos * gizmo_weight)
6 print(f"The total weight of all these widgets and gizmos is {total_weight} grams.")

```

	<b>Input</b>	<b>Expected</b>	<b>Got</b>	
✓	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 2**

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	False
43	

**Answer:** (penalty regime: 0 %)

```

1 total_weapons = int(input())
2 total_soldiers = int(input())
3 can_win_battle = (total_weapons % 3==0)and (total_soldiers % 2==0)
4 print(can_win_battle)

```

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

	Input	Expected	Got	
✓	6789 32996	True	True	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 3**

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 | number = int(input())
2 | count_ones = (number & 1) + ((number >> 1) & 1) + ((number >> 2) & 1) +((number >> 3) & 1)
3 | print(count_ones)

```

	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 4**

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 N = int(input())
2 P1 = int(input())
3 P2 = int(input())
4 P3 = int(input())
5 P4 = int(input())
6 print(P1 % N==0, P2 % N==0, P3 % N==0, P4 % N==0)
7

```

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

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 | number = abs(int(input()))
2 | last_digit = number % 10
3 | print(last_digit)

```

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

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 6**

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 initial_deposit = float(input())
2 interest_rate = 0.04
3 balance_year_1 = initial_deposit * (1+interest_rate)
4 balance_year_2 = balance_year_1 * (1+interest_rate)
5 balance_year_3 = balance_year_2 * (1+ interest_rate)
6 print(f"Balance as of end of Year 1: ${balance_year_1:.2f}.")
7 print(f"Balance as of end of Year 2: ${balance_year_2:.2f}.")
8 print(f"Balance as of end of Year 3: ${balance_year_3:.2f}.")
```

	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 7**

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 meal_cost = float(input())
2 tax_rate = 0.05
3 tip_rate = 0.18
4 tax_amount = meal_cost * tax_rate
5 tip_amount = meal_cost * tip_rate
6 total_amount = meal_cost + tax_amount + tip_amount
7 print("The tax is {:.2f} and the tip is {:.2f}, making the total {:.2f}".format(tax_amount,tip_amount,total_amount)
8

```

	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 8**

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,  $0 \leq x \leq 1$ .**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 x = int(input())
2 ascii_value = 67 + x
3 print(chr(ascii_value))
4
```

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

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 9**

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 num=int(input())
2 does_doll_sing = (num % 2 == 0) and (num > 0) and (num <= 100)
3 print(does_doll_sing)

```

	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 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	False
40	

**Answer:** (penalty regime: 0 %)

```
1 age = int(input())
2 weight = int(input())
3 is_eligible = (age >= 18) and (weight > 40)
4 print(is_eligible)
```

	Input	Expected	Got	
✓	19 45	True	True	✓
✓	18 40	False	False	✓
✓	18 42	True	True	✓
✓	16 45	False	False	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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<b>Started on</b>	Wednesday, 27 March 2024, 3:43 PM
<b>State</b>	Finished
<b>Completed on</b>	Monday, 1 April 2024, 7:57 PM
<b>Time taken</b>	5 days 4 hours
<b>Overdue</b>	3 days 4 hours
<b>Marks</b>	10.00/10.00
<b>Grade</b>	<b>100.00</b> out of 100.00

**Question 1**

Correct

Mark 1.00 out of 1.00

In this exercise you will create a program that reads a letter of the alphabet from the user. If the user enters a, e, i, o or u then your program should display a message indicating that the entered letter is a vowel. If the user enters y then your program should display a message indicating that sometimes y is a vowel, and sometimes y is a consonant. Otherwise your program should display a message indicating that the letter is a consonant.

Sample Input 1

i

Sample Output 1

It's a vowel.

Sample Input 2

y

Sample Output 2

Sometimes it's a vowel... Sometimes it's a consonant.

Sample Input3

c

Sample Output 3

It's a consonant.

**For example:**

Input	Result
y	Sometimes it's a vowel... Sometimes it's a consonant.
c	It's a consonant.

**Answer:** (penalty regime: 0 %)

```

1 |letter = input().lower()
2 |if letter in "aeiou":
3 |    message = "It's a vowel."
4 |elif letter == "y":
5 |    message = "Sometimes it's a vowel... Sometimes it's a consonant."
6 |else:
7 |    message = "It's a consonant."
8 |print(message)

```

	Input	Expected	Got	
✓	i	It's a vowel.	It's a vowel.	✓
✓	y	Sometimes it's a vowel... Sometimes it's a consonant.	Sometimes it's a vowel... Sometimes it's a consonant.	✓
✓	c	It's a consonant.	It's a consonant.	✓

	<b>Input</b>	<b>Expected</b>	<b>Got</b>	
✓	e	It's a vowel.	It's a vowel.	✓
✓	r	It's a consonant.	It's a consonant.	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 2**

Correct

Mark 1.00 out of 1.00

Write a program to find the eligibility of admission for a professional course based on the following criteria:

Marks in Maths  $\geq$  65

Marks in Physics  $\geq$  55

Marks in Chemistry  $\geq$  50

Or

Total in all three subjects  $\geq$  180

Sample Test Cases

Test Case 1

Input

70

60

80

Output

The candidate is eligible

Test Case 2

Input

50

80

80

Output

The candidate is eligible

Test Case 3

Input

50

60

40

Output

The candidate is not eligible

**For example:**

Input	Result
70	The candidate is eligible
60	
80	

**Answer:** (penalty regime: 0 %)

```

1 maths_marks = int(input())
2 physics_marks = int(input())
3 chemistry_marks = int( input())
4 total_marks = maths_marks + physics_marks + chemistry_marks
5
6 if( maths_marks >=65 and physics_marks >= 55 and chemistry_marks >= 50) or (total_marks >= 180):
7     print("The candidate is eligible")
8 else:
9     print("The candidate is not eligible")

```

	<b>Input</b>	<b>Expected</b>	<b>Got</b>	
✓	70 60 80	The candidate is eligible	The candidate is eligible	✓
✓	50 80 80	The candidate is eligible	The candidate is eligible	✓
✓	50 60 40	The candidate is not eligible	The candidate is not eligible	✓
✓	20 10 25	The candidate is not eligible	The candidate is not eligible	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 3**

Correct

Mark 1.00 out of 1.00

Most years have 365 days. However, the time required for the Earth to orbit the Sun is actually slightly more than that. As a result, an extra day, February 29, is included in some years to correct for this difference. Such years are referred to as leap years. The rules for determining whether or not a year is a leap year follow:

- Any year that is divisible by 400 is a leap year.
- Of the remaining years, any year that is divisible by 100 is not a leap year.
- Of the remaining years, any year that is divisible by 4 is a leap year.
- All other years are not leap years.

Write a program that reads a year from the user and displays a message indicating whether or not it is a leap year.

Sample Input 1

1900

Sample Output 1

1900 is not a leap year.

Sample Input 2

2000

Sample Output 2

2000 is a leap year.

**Answer:** (penalty regime: 0 %)

```

1 year = int(input())
2 if year % 400 == 0:
3     print(f"{year} is a leap year.")
4 elif year % 100 == 0:
5     print(f"{year} is not a leap year.")
6 elif year % 4 == 0:
7     print(f"{year} is a leap year.")
8 else:
9     print(f"{year} is not a leap year.")

```

	<b>Input</b>	<b>Expected</b>	<b>Got</b>	
✓	1900	1900 is not a leap year.	1900 is not a leap year.	✓
✓	2000	2000 is a leap year.	2000 is a leap year.	✓
✓	2100	2100 is not a leap year.	2100 is not a leap year.	✓
✓	2020	2020 is a leap year.	2020 is a leap year.	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 4**

Correct

Mark 1.00 out of 1.00

Three numbers form a Pythagorean triple if the sum of squares of two numbers is equal to the square of the third.

For example, 3, 5 and 4 form a Pythagorean triple, since  $3^2 + 4^2 = 25 = 5^2$

You are given three integers, a, b, and c. They need not be given in increasing order. If they form a Pythagorean triple, then print "yes", otherwise, print "no". Please note that the output message is in small letters.

Sample Input

3  
5  
4

Sample Output

yes

Sample Test Cases

Test Case 1

Input

3  
5  
4

Output

yes

Test Case 2

Input

5  
8  
2

Output

no

**Answer:** (penalty regime: 0 %)

```
1 a = int(input())
2 b = int(input())
3 c = int(input())
4
5 if a*a + b*b == c*c or a*a + c*c == b*b or b*b + c*c == a*a:
6     print ("yes")
7 else:
8     print ("no")
```

	Input	Expected	Got	
✓	3 5 4	yes	yes	✓
✓	5 8 2	no	no	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 5**

Correct

Mark 1.00 out of 1.00

Write a program that returns the second last digit of the given number. Second last digit is being referred to the digit in the tens place in the given number.

For example, if the given number is 197, the second last digit is 9.

Note1 - The second last digit should be returned as a positive number. i.e. if the given number is -197, the second last digit is 9.

Note2 - If the given number is a single digit number, then the second last digit does not exist. In such cases, the program should return -1. i.e. if the given number is 5, the second last digit should be returned as -1

**For example:**

Input	Result
197	9
5	-1

**Answer:** (penalty regime: 0 %)

```

1 number = int(input())
2
3 number = abs(number)
4
5 number_str = str(number)
6
7 if len(number_str) < 2:
8     second_last_digit = -1
9 else:
10     second_last_digit = int(number_str[-2])
11 print(second_last_digit)

```

	Input	Expected	Got	
✓	197	9	9	✓
✓	-197	9	9	✓
✓	5	-1	-1	✓
✓	123456	5	5	✓
✓	8	-1	-1	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 6**

Correct

Mark 1.00 out of 1.00

The length of a month varies from 28 to 31 days. In this exercise you will create a program that reads the name of a month from the user as a string. Then your program should display the number of days in that month. Display "28 or 29 days" for February so that leap years are addressed.

Sample Input 1

February

Sample Output 1

February has 28 or 29 days in it.

Sample Input 2

March

Sample Output 2

March has 31 days in it.

Sample Input 3

April

Sample Output 3

April has 30 days in it.

**For example:**

Input	Result
February	February has 28 or 29 days in it.

**Answer:** (penalty regime: 0 %)

```

1 month = input().capitalize()
2 if month == "January" or month == "March" or month == "May" or month == "July" or \
3   month == "August" or month == "October" or month == "December":
4   days = "31"
5 elif month == "April" or month == "June" or month == "September" or month == "November":
6   days = "30"
7 elif month == "February":
8   days = "28 or 29"
9 else:
10  days = None
11
12 if days:
13   print(f"{month} has {days} days in it.")
14 else:
15   print("Please enter a valid month name.")

```

	Input	Expected	Got	
✓	February	February has 28 or 29 days in it.	February has 28 or 29 days in it.	✓
✓	March	March has 31 days in it.	March has 31 days in it.	✓
✓	April	April has 30 days in it.	April has 30 days in it.	✓
✓	May	May has 31 days in it.	May has 31 days in it.	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 7**

Correct

Mark 1.00 out of 1.00

IN / OUT

Ms. Sita, the faculty handling programming lab for you is very strict. Your seniors have told you that she will not allow you to enter the week's lab if you have not completed atleast half the number of problems given last week. Many of you didn't understand this statement and so they requested the good programmers from your batch to write a program to find whether a student will be allowed into a week's lab given the number of problems given last week and the number of problems solved by the student in that week.

Input Format:

Input consists of 2 integers.

The first integer corresponds to the number of problems given and the second integer corresponds to the number of problems solved.

Output Format:

Output consists of the string "IN" or "OUT".

Sample Input and Output:

Input

8

3

Output

OUT

**For example:**

Input	Result
8	OUT
3	

**Answer:** (penalty regime: 0 %)

```

1 problems_given = int(input())
2 problems_solved = int(input())
3
4 if problems_solved >= problems_given / 2:
5     print("IN")
6 else:
7     print("OUT")

```

	<b>Input</b>	<b>Expected</b>	<b>Got</b>	
✓	8 3	OUT	OUT	✓
✓	8 5	IN	IN	✓
✓	20 9	OUT	OUT	✓
✓	50 31	IN	IN	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 8**

Correct

Mark 1.00 out of 1.00

A triangle can be classified based on the lengths of its sides as equilateral, isosceles or scalene. All three sides of an equilateral triangle have the same length. An isosceles triangle has two sides that are the same length, and a third side that is a different length. If all of the sides have different lengths then the triangle is scalene.

Write a program that reads the lengths of the three sides of a triangle from the user. Then display a message that states the triangle's type.

Sample Input 1

60

60

60

Sample Output 1

That's a equilateral triangle

Sample Input 2

40

40

80

Sample Output 2

That's a isosceles triangle

Sample Input 3

50

60

70

Sample Output 3

That's a scalene triangle

**For example:**

Input	Result
60 60 60	That's a equilateral triangle
40 40 80	That's a isosceles triangle

**Answer:** (penalty regime: 0 %)

```

1 side_1 = int(input())
2 side_2 = int(input())
3 side_3 = int(input())
4
5 if side_1 == side_2 and side_2 == side_3:
6     print("That's a equilateral triangle")
7 elif side_1 == side_2 or side_2 == side_3 or side_1 == side_3:
8     print("That's a isosceles triangle")
9 else:
10    print("That's a scalene triangle")

```

	<b>Input</b>	<b>Expected</b>	<b>Got</b>	
✓	60 60 60	That's a equilateral triangle	That's a equilateral triangle	✓
✓	40 40 80	That's a isosceles triangle	That's a isosceles triangle	✓
✓	50 60 70	That's a scalene triangle	That's a scalene triangle	✓
✓	50 50 80	That's a isosceles triangle	That's a isosceles triangle	✓
✓	10 10 10	That's a equilateral triangle	That's a equilateral triangle	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 9**

Correct

Mark 1.00 out of 1.00

Write a program to calculate and print the Electricity bill where the unit consumed by the user is given from test case. It prints the total amount the customer has to pay. The charge are as follows:

Unit	Charge / Unit
Upto 199	@1.20
200 and above but less than 400	@1.50
400 and above but less than 600	@1.80
600 and above	@2.00

If bill exceeds Rs.400 then a surcharge of 15% will be charged and the minimum bill should be of Rs.100/-

Sample Test Cases

Test Case 1

Input

50

Output

100.00

Test Case 2

Input

300

Output

517.50

**For example:**

Input	Result
100.00	120.00
500	1035.00

**Answer:** (penalty regime: 0 %)

```

1 units = float( input())
2 if units <= 199:
3     bill = units * 1.20
4 elif units < 400:
5     bill = units * 1.50
6 elif units < 600:
7     bill = units * 1.80
8 else:
9     bill = units * 2.00
10
11
12 if bill > 400:
13     bill += bill * 0.15
14
15
16 if bill < 100:
17     bill = 100
18
19 print( bill)

```

	<b>Input</b>	<b>Expected</b>	<b>Got</b>	
✓	50	100.00	100	✓
✓	100.00	120.00	120.0	✓
✓	500	1035.00	1035.0	✓
✓	700	1610.00	1610.0	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 10**

Correct

Mark 1.00 out of 1.00

The Chinese zodiac assigns animals to years in a 12 year cycle. One 12 year cycle is shown in the table below. The pattern repeats from there, with 2012 being another year of the dragon, and 1999 being another year of the hare.

Year Animal

2000 Dragon

2001 Snake

2002 Horse

2003 Sheep

2004 Monkey

2005 Rooster

2006 Dog

2007 Pig

2008 Rat

2009 Ox

2010 Tiger

2011 Hare

Write a program that reads a year from the user and displays the animal associated with that year. Your program should work correctly for any year greater than or equal to zero, not just the ones listed in the table.

Sample Input 1

2010

Sample Output 1

2010 is the year of the Tiger.

Sample Input 2

2020

Sample Output 2

2020 is the year of the Rat.

**Answer:** (penalty regime: 0 %)

```
1 year = int(input())
2 remainder = year % 12
3 if remainder == 0:
4     animal = "Monkey"
5 elif remainder == 1:
6     animal = "Rooster"
7 elif remainder == 2:
8     animal = "Dog"
9 elif remainder == 3:
10    animal = "Pig"
11 elif remainder == 4:
12    animal = "Rat"
13 elif remainder == 5:
14    animal = "Ox"
15 elif remainder == 6:
16    animal = "Tiger"
17 elif remainder == 7:
18    animal = "Hare"
19 elif remainder == 8:
20    animal = "Dragon"
21 elif remainder == 9:
22    animal = "Snake"
23 elif remainder == 10:
24    animal = "Horse"
25 elif remainder == 11:
26    animal = "Sheep"
27 print(f"{year} is the year of the {animal}.")
28
```

	<b>Input</b>	<b>Expected</b>	<b>Got</b>	
✓	2010	2010 is the year of the Tiger.	2010 is the year of the Tiger.	✓
✓	2020	2020 is the year of the Rat.	2020 is the year of the Rat.	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

◀ Week3\_mcq

Jump to...

Iteration control structures ►

[Dashboard](#) / [My courses](#) / [PSPP/PUP](#) / [Algorithmic Approach: Iteration control structures.](#) / [Week4 Coding](#)

<b>Started on</b>	Thursday, 25 April 2024, 11:29 AM
<b>State</b>	Finished
<b>Completed on</b>	Sunday, 28 April 2024, 11:05 PM
<b>Time taken</b>	3 days 11 hours
<b>Overdue</b>	1 day 11 hours
<b>Marks</b>	10.00/10.00
<b>Grade</b>	<b>100.00</b> out of 100.00

**Question 1**

Correct

Mark 1.00 out of 1.00

Given a number N, find the next perfect square greater than N.

Input Format:

Integer input from stdin.

Output Format:

Perfect square greater than N.

Example Input:

10

Output:

16

**Answer:** (penalty regime: 0 %)

```
1 N = int(input())
2 next_perfect_square = 0
3 candidate = 0
4 while next_perfect_square <= N:
5     candidate += 1
6     next_perfect_square = candidate * candidate
7
8 print(next_perfect_square)
```

	Input	Expected	Got	
✓	10	16	16	✓

Passed all tests! ✓

**Correct**

Marks for this submission: 1.00/1.00.

**Question 2**

Correct

Mark 1.00 out of 1.00

Write a program that finds whether the given number N is Prime or not.

If the number is prime, the program should return 2 else it must return 1.

Assumption:  $2 \leq N \leq 5000$ , where N is the given number.

Example1: if the given number N is 7, the method must return 2

Example2: if the given number N is 10, the method must return 1

**For example:**

Input	Result
7	2
10	1

**Answer:** (penalty regime: 0 %)

```

1 N = int(input())
2 is_prime = True
3 if N % 2 == 0 and N > 2:
4
5     is_prime = False
6 else:
7     for i in range(3, int(N**0.5) + 1, 2):
8         if N % i == 0:
9             is_prime = False
10            break
11 print(2 if is_prime else 1)

```

	Input	Expected	Got	
✓	7	2	2	✓
✓	10	1	1	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 3**

Correct

Mark 1.00 out of 1.00

Given a positive integer N, check whether it can be represented as a product of single digit numbers.

**Input Format:**

Single Integer input.

**Output Format:**

Output displays Yes if condition satisfies else prints No.

**Example Input:**

14

**Output:**

Yes

**Example Input:**

13

**Output:**

No

**Answer:** (penalty regime: 0 %)

```

1 N = int(input())
2 number = N
3 if number < 10:
4     print("Yes")
5 else:
6     while number % 2 == 0:
7         number /= 2
8     while number % 3 == 0:
9         number /= 3
10    while number % 5 == 0:
11        number /= 5
12    while number % 7 == 0:
13        number /= 7
14    if number == 1:
15        print("Yes")
16    else:
17        print("No")

```

	<b>Input</b>	<b>Expected</b>	<b>Got</b>	
✓	14	Yes	Yes	✓
✓	13	No	No	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 4**

Correct

Mark 1.00 out of 1.00

A Number is said to be Disarium number when the sum of its digit raised to the power of their respective positions becomes equal to the number itself. Write a program to print number is Disarium or not.

Input Format:

Single Integer Input from stdin.

Output Format:

Yes or No.

Example Input:

175

Output:

Yes

Explanation

$$1^1 + 7^2 + 5^3 = 175$$

Example Input:

123

Output:

No

**For example:**

Input	Result
175	Yes
123	No

**Answer:** (penalty regime: 0 %)

```

1 number = int(input())
2 n = number
3 num_digits = 0
4 while n > 0:
5     n //= 10
6     num_digits += 1
7 sum_of_powers = 0
8 n = number
9 while n > 0:
10    digit = n % 10
11    sum_of_powers += digit ** num_digits
12    num_digits -= 1
13    n //= 10
14 if sum_of_powers == number:
15     print("Yes")
16 else:
17     print("No")

```

	Input	Expected	Got	
✓	175	Yes	Yes	✓
✓	123	No	No	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 5**

Correct

Mark 1.00 out of 1.00

Given an integer N, check whether N the given number can be made a perfect square after adding to it.

**Input Format:**

Single integer input.

**Output Format:**

Yes or No.

**Example Input:**

24

**Output:**

Yes

**Example Input:**

26

**Output:**

No

**For example:**

Input	Result
24	Yes

**Answer:** (penalty regime: 0 %)

```

1 N = int(input())
2 N += 1
3 square_root = 0
4 while square_root * square_root < N:
5     square_root += 1
6 if square_root * square_root == N:
7     print("Yes")
8 else:
9     print("No")

```

	Input	Expected	Got	
✓	24	Yes	Yes	✓
✓	26	No	No	✓

Passed all tests! ✓

**Correct**

Marks for this submission: 1.00/1.00.

**Question 6**

Correct

Mark 1.00 out of 1.00

Write a program to find the sum of the series  $1 + 11 + 111 + 1111 + \dots + n$  terms ( $n$  will be given as input from the user and sum will be the output)

Sample Test Cases

Test Case 1

Input

4

Output

1234

Test Case 2

Input

6

Output

123456

**Answer:** (penalty regime: 0 %)

```
1 n = int(input())
2 current_term = 1
3 sum_series = 0
4 for _ in range(n):
5
6     sum_series += current_term
7
8     current_term = current_term * 10 + 1
9 print(sum_series)
```

	Input	Expected	Got	
✓	4	1234	1234	✓
✓	6	123456	123456	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 7**

Correct

Mark 1.00 out of 1.00

Write a program to find the count of non-repeated digits in a given number N. The number will be passed to the program as an input of type int.

Assumption: The input number will be a positive integer number  $\geq 1$  and  $\leq 25000$ .

Some examples are as below.

If the given number is 292, the program should return 1 because there is only 1 non-repeated digit '9' in this number

If the given number is 1015, the program should return 2 because there are 2 non-repeated digits in this number, '0', and '5'.

If the given number is 108, the program should return 3 because there are 3 non-repeated digits in this number, '1', '0', and '8'.

If the given number is 22, the function should return 0 because there are NO non-repeated digits in this number.

**For example:**

Input	Result
292	1
1015	2
108	3
22	0

**Answer:** (penalty regime: 0 %)

```

1 N = int(input())
2 non_repeated_count = 0
3 digit_occurrences = [0] * 10
4 temp_N = N
5 while temp_N > 0:
6     digit = temp_N % 10
7     digit_occurrences[digit] += 1
8     temp_N //= 10
9 temp_N = N
10 while temp_N > 0:
11     digit = temp_N % 10
12     if digit_occurrences[digit] == 1:
13         digit_occurrences[digit] = -1
14     non_repeated_count += 1
15     temp_N //= 10
16 print(non_repeated_count)

```

	Input	Expected	Got	
✓	292	1	1	✓
✓	1015	2	2	✓
✓	108	3	3	✓
✓	22	0	0	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 8**

Correct

Mark 1.00 out of 1.00

In mathematics, the factorial of a non-negative integer  $n$ , denoted by  $n!$ , is the product of all positive integers less than or equal to  $n$ . For example,

$$5! = 5 \times 4 \times 3 \times 2 \times 1 = 120$$

$$4! = 4 \times 3 \times 2 \times 1 = 24$$

$$9! = 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 362880$$

Write a program to find the factorial of a given number.

The given number will be passed to the program as an input of type int.

The program is expected to calculate the factorial of the given number and return it as an int type.

Assumptions for this program:

The given input number will always be greater than or equal to 1.

Due to the range supported by int. the input numbers will range from 1 to 12.

**For example:**

Input	Result
5	120
4	24
9	362880

**Answer:** (penalty regime: 0 %)

```

1 n = int(input())
2 factorial = 1
3 for i in range(1, n + 1):
4     factorial *= i
5 print(factorial)

```

	Input	Expected	Got	
✓	5	120	120	✓
✓	4	24	24	✓
✓	9	362880	362880	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

## Question 9

Correct

Mark 1.00 out of 1.00

Write a program to find the count of unique digits in a given number N. The number will be passed to the program as an input of type int.

Assumption: The input number will be a positive integer number  $\geq 1$  and  $\leq 25000$ .

For e.g.

If the given number is 292, the program should return 2 because there are only 2 unique digits '2' and '9' in this number.

If the given number is 1015, the program should return 3 because there are 3 unique digits in this number, '1', '0', and '5'.

**For example:**

Input	Result
292	2
1015	3

**Answer:** (penalty regime: 0 %)

```

1 N = int(input())
2 unique_digit_count = 0
3 for digit_to_check in range(10):
4
5     has_digit = False
6
7     temp_N = N
8     while temp_N > 0:
9
10        if temp_N % 10 == digit_to_check:
11            has_digit = True
12            break
13        temp_N //= 10
14    if has_digit:
15        unique_digit_count += 1
16 print(unique_digit_count)

```

	Input	Expected	Got	
✓	292	2	2	✓
✓	1015	3	3	✓
✓	123	3	3	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

**Question 10**

Correct

Mark 1.00 out of 1.00

Write a program to return the nth number in the fibonacci series.

The value of N will be passed to the program as input.

NOTE: Fibonacci series looks like –

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, ... and so on.

i.e. Fibonacci series starts with 0 and 1, and continues generating the next number as the sum of the previous two numbers.

- first Fibonacci number is 0,
- second Fibonacci number is 1,
- third Fibonacci number is 1,
- fourth Fibonacci number is 2,
- fifth Fibonacci number is 3,
- sixth Fibonacci number is 5,
- seventh Fibonacci number is 8, and so on.

**For example:**

Input	Result
1	0
4	2
7	8

**Answer:** (penalty regime: 0 %)

```

1 N = int(input())
2 a, b = 0, 1
3 if N == 1:
4     nth_number = a
5 elif N == 2:
6     nth_number = b
7 else:
8     for _ in range(2, N):
9         nth_number = a + b
10        a, b = b, nth_number
11 print(nth_number)

```

	Input	Expected	Got	
✓	1	0	0	✓
✓	4	2	2	✓
✓	7	8	8	✓

Passed all tests! ✓

**Correct**

Marks for this submission: 1.00/1.00.

◀ Week4\_mcq

Jump to...

Strings ►