

1.1.1. Calculate Momentum 02:00 calculate ... Submit

Write a program that accepts the mass of an object (in kilograms) and its velocity (in meters per second), then calculates and displays the momentum of the object. The momentum p is calculated using the formula:

$$p = m \times v$$

where

m is the mass of the object (in kilograms),

v is the velocity of the object (in meters per second)

Input Format:

Input Format:
A single floating-point number representing the mass of the object in kilograms.

A single floating-point number representing the velocity of the object in meters per second.

Output Format:

Output Format:
The output will display calculated momentum with appropriate units (kg·m/s) (rounded up to 2 decimal places)

Sample Test Cases

calculate... Submit

```
1 m=float(input())
2 v=float(input())
3 p=m**v
4 print('%0.2f'%p + ' kgm/s^')
5
```

New repositoryCourse

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1.2.2. Fibonacci series using Recursive Function01:37

Write a Python program to find the Fibonacci series of a given number of terms using recursive function calls.

Expected Output-1:
Enter terms for Fibonacci series: 5
0 1 1 2 3

Expected Output-2:
Enter terms for Fibonacci series: 9
0 1 1 2 3 5 8 13 21

Instructions

- Your input and output must follow the input and output layout mentioned in the visible sample test case.
- Hidden test cases will only pass when users' input and output match the expected input and output.

Sample Test Cases

fib.py

1def fib(i):
2 if(i==0):
3 return 0
4 elif(i==1):
5 return 1
6 else:
7 return fib(i-1)+fib(i-2)
8
9
10
11
12
13
14
15
16
17
18n=int(input("Enter terms for Fibonacci series: "))
19for i in range(n):
20 print(fib(i),end=" ")

TerminalTest cases

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1.2.1. Pass or Fail

Write a Python program that accepts the number of courses and the marks of a student in those courses.

The grade is determined based on the aggregate percentage:

- If the aggregate percentage is greater than 75, the grade is Distinction.
- If the aggregate percentage is greater than or equal to 60 but less than 75, the grade is First Division.
- If the aggregate percentage is greater than or equal to 50 but less than 60, the grade is Second Division.
- If the aggregate percentage is greater than or equal to 40 but less than 50, the grade is Third Division.

Input Format:
The first input will be an integer n , the number of courses.
The second input will be n integers representing the marks of the student in each of the n courses, separated by a space.

Output Format:
If the student passes all courses:

- Print the aggregate percentage (rounded to two decimal places).
- Print the grade based on the aggregate percentage.

If the student fails any course (marks < 40 in any course), print:

- "Fail".

Sample Test Cases

passorFa...

```
1 n = int(input())
2 marks = list(map(int, input().split(" ")))
3 if all (mark>=40 for mark in marks):
4     per = sum(marks)/n
5     print(f"Aggregate Percentage: {per:0.2f}")
6     if per>=75:
7         print("Grade: Distinction")
8
9     elif 60<=per<75:
10        print("Grade: First Division")
11
12    elif 50<=per<60:
13        print("Grade: Second Division")
14
15    elif 40<=per<50:
16        print("Grade: Third Division")
17
18    elif any (mark<40 for mark in marks):
19        print("Fail")
```

TerminalTest cases

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Write a Python program that accepts an integer n as input. Depending on the number of digits in n ,

 $1 \leq n \leq 999$

Input Format:
The input consists

Output Format:
If n is a single-di

If n is a single-digit number, print its square.

If n is a two-digit number, print its square root (rounded to two decimal places)

If n is a three-digit number, print its cube root (rounded to two decimal places).

```
Else print "Invalid"
```

Sample Test Cases

Submit

```

1 n=int(input())
2 v if(n>0 and n<9):
3     print(n*n)
4
5 v elif(n==10 and n<99):
6     p=n**0.5
7     print("%.2f"%p)
8
9 v elif(n>=100 and n<999):
10    r=n**(1/3)
11    print("%.2f"%r)
12
13 v else:
14    print("Invalid")

```

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Course

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1.2.4. Pattern - 2

Write a Python program to print a right-angled triangle pattern of numbers.

Input Format:
The input is an integer, representing the number of rows in the pattern.

Output Format:
The output should display the pattern of numbers, with each row containing increasing numbers starting from 1 up to the row number.

Note:
Refer to the displayed test cases for the sample pattern.

Sample Test Cases

numberP...

1 n=int(input())
2 i=1
3 while (i<=n):
4 j=1
5 while (j<=i):
6 print(j,end=" ")
7 j=j+1
8 print()
9 i=i+1

Terminal

Test cases

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Submit

Next >

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1.2.3. Pattern - 1 01:00

Write a Python program to print a pattern of asterisks in the form of a right-angled triangle.

Input Format:

Input Format:
The input is an integer, representing the number of rows in the pattern.

Output Format

Output Format
The output should display the pattern of asterisks (*), with each row containing an increasing number of asterisks.

Note:
Refer to the displayed test cases for the sample pattern.

Sample Test Cases +

rightangl... Submit

```
1 a=int(input())
2 for i in range(1,a+1):
3     print('*'*i)
```

New repository

Course

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1.1.3. Age and Salary Calculation

45.50

Write a Python program that reads the birth date and salary of employees.

Input Format:

The input consists of:
A string representing the birth date of the employee in the format *DD - MM - YYYY*.
A floating-point number representing the salary of the employee in rupees.

Output Format:

The output should include:
The age of the employee.
The salary of the employee in dollars.

Note:

1INR=0.012USD

Sample Test Cases

birthDate...

```
1 # import the required package
2 from datetime import datetime
3 def calculate_age(birthdate):
4     # Write your code here
5     day, month, year = map(int, birthdate.split("-"))
6     birth_date = date(year, month, day)
7     to_date = today()
8     age = to_date.year - birth_date.year
9     if (birth_date.month, birth_date.day) > (to_date.month, to_date.day):
10         age = age - 1
11     return age
12 def convert_salary_to_dollars(salary_in_rupees):
13     # write your code here
14     return salary_in_rupees * 0.012
15 birthdate = input()
16 salary_in_rupees = float(input())
17 age = calculate_age(birthdate)
18 salary_in_dollars = convert_salary_to_dollars(salary_in_rupees)
19 print(f"Age: {age}")
20 print(f"Salary in dollars: {salary_in_dollars:.2f}")
21
```

Terminal

Test cases

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The image shows a web browser window with a single tab titled 'Course'. The address bar shows a URL from 'mitace.codetantra.com'. The page header includes the 'CODETANTRA' logo and a 'Home' link. On the right side of the header, there is a user email '202401090058@mitace.ac.in', a 'Support' link, and a 'Logout' button. The main content area is titled '1.1.4. Reverse a Number' and contains a description of the task: 'You are given an integer number. Your task is to reverse the digits of the number and print the reversed number.' Below the description, there are sections for 'Input Format' (The input is an integer.) and 'Output Format' (Print a single integer which is the reversed number.). A 'Sample Test Cases' section is visible at the bottom of the problem description. To the right of the problem description is a code editor with a file named 'reverseN...'. It contains three lines of Python code:

```
1 num=int(input())
2 n1=str(num)
3 print(n1[::-1])
```

 Below the code editor are tabs for 'Terminal' and 'Test cases'. At the bottom of the browser window, there is a Windows taskbar with various icons, including the Start button, search bar, and application icons for Thunderstorm, File Explorer, and Google Chrome. The system clock shows the time as 13:38 on 07-05-2022.