

EX.NO	QUESTIONS
1	<p><b><u>Library charges</u></b></p> <p>Write a program to calculate the library charges for a user after reading a book for the number of days he keeps the book as per the following criteria.</p> <p>1st 3 days - Rs.5 (1 - 3)      Next 1 week – Rs. 3 per day (4 - 10)      After that - Rs. 10 per day</p> <pre>&gt;&gt;&gt; ===== RESTART: C:\Users\PSBB 9\Desktop\11 b1\exp 1.py ===== The no.of days is:8 Amount to be paid is 20 &gt;&gt;&gt; ===== RESTART: C:\Users\PSBB 9\Desktop\11 b1\exp 1.py ===== The no.of days is:3 Amount to be paid is 5 rupees &gt;&gt;&gt; ===== RESTART: C:\Users\PSBB 9\Desktop\11 b1\exp 1.py ===== The no.of days is:14 Amount to be paid is 66</pre>
2	<p><b><u>Greatest of three numbers</u></b></p> <p>Write a program to obtain three numbers as user input and display the greatest number</p> <pre>&gt;&gt;&gt; ===== RESTART: C:/Users/PSBB 9/Desktop/11 b1/exp 2.py ===== The first number is:3 The second number is:5 The third number is:4 The greatest number is 5 &gt;&gt;&gt; ===== RESTART: C:/Users/PSBB 9/Desktop/11 b1/exp 2.py ===== The first number is:63 The second number is:85 The third number is:108 The greatest number is 108 &gt;&gt;&gt; ===== RESTART: C:/Users/PSBB 9/Desktop/11 b1/exp 2.py ===== The first number is:28 The second number is:46 The third number is:15 The greatest number is 46</pre>
3	<p><b><u>Payroll</u></b></p> <p>Write a program to calculate the net salary of a person based on the basic salary according to the following criteria.</p> <p>If Basic salary &lt;=10000:      HRA = 20%      DA = 80%      PF = 5%</p> <p>If Basic salary &lt;=20000      HRA = 25%      DA = 90%      PF = 10%</p> <p>If Basic salary &gt;200000</p>

**HRA = 30%**  
**DA = 95%**  
**PF = 20%**  
**Grosspay = Basic+HRA+DA**  
**Netpay = Grosspay-PF**

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=====
RESTART: C:/Users/PSBB 9/Desktop/11 b1/EXP 3 LAB.py =====
The basic pay is:24000
Your gross pay is 48000.0
Your net pay is 46800.0
>>>
=====
RESTART: C:/Users/PSBB 9/Desktop/11 b1/EXP 3 LAB.py =====
The basic pay is:150000
Your gross pay is 322500.0
Your net pay is 307500.0
>>>
=====
RESTART: C:/Users/PSBB 9/Desktop/11 b1/EXP 3 LAB.py =====
The basic pay is:250000
Your gross pay is 562500.0
Your net pay is 512500.0

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#### 4 Armstrong Numbers

Write a program to display the Armstrong numbers in a given range.

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==== RESTART: C:\Users\PSBB 9\Desktop\11 b1\CS Lab CODES\experiment 5.py ====
Enter the start value of the range:1
Enter the end value of the range:500
1 2 3 4 5 6 7 8 9 153 370 371 407
>>>
==== RESTART: C:\Users\PSBB 9\Desktop\11 b1\CS Lab CODES\experiment 5.py ====
Enter the start value of the range:1000
Enter the end value of the range:2000
1634
>>>
==== RESTART: C:\Users\PSBB 9\Desktop\11 b1\CS Lab CODES\experiment 5.py ====
Enter the start value of the range:1
Enter the end value of the range:4300
1 2 3 4 5 6 7 8 9 153 370 371 407 1634

```

#### 5 Sum of Series

Write a program to calculate the sum of the following series

$1 + \frac{1}{1!} + \frac{2}{2!} + \frac{3}{3!} + \dots + \frac{n}{n!}$

```

==== RESTART: C:/Users/PSBB 9/Desktop/11 b1/CS Lab CODES/experiment 4.py ====
Enter a number:3
3.5
>>>
==== RESTART: C:/Users/PSBB 9/Desktop/11 b1/CS Lab CODES/experiment 4.py ====
Enter a number:5
3.708333333333333
>>>
==== RESTART: C:/Users/PSBB 9/Desktop/11 b1/CS Lab CODES/experiment 4.py ====
Enter a number:10
3.7182815255731922
>>> |

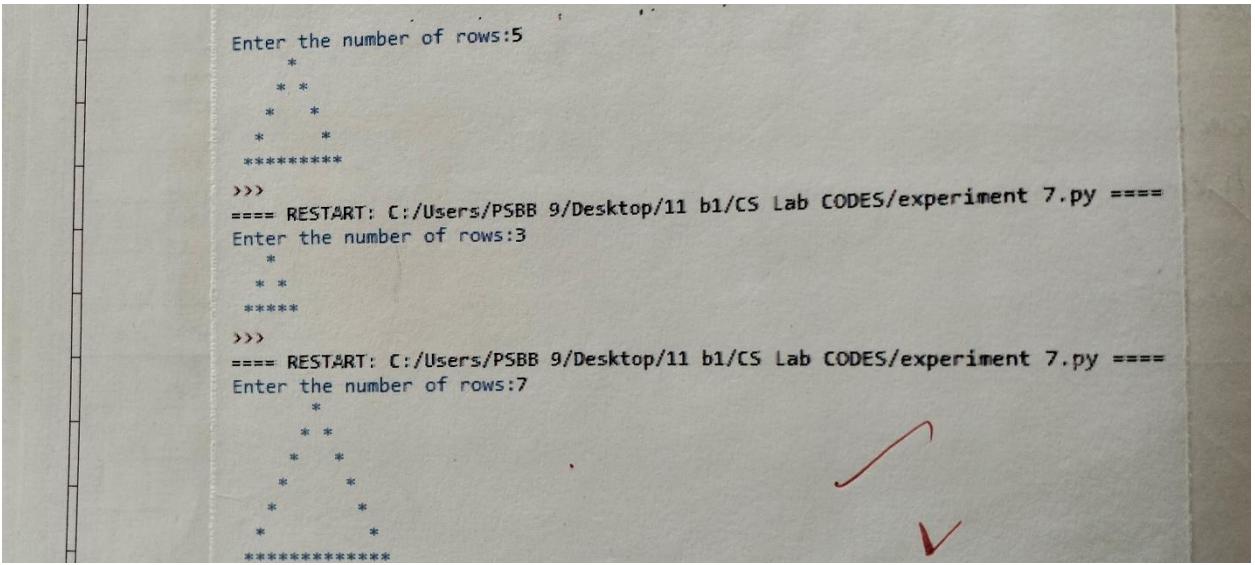
```

#### 6 Binary to Decimal

Write a program to convert a given binary number obtained as user input to decimal

	<pre>===== RESTART: C:\Users\PSBB 9\Desktop\11 b1\exp no 6.py ===== Enter a binary number:101 5 &gt;&gt;&gt; ===== RESTART: C:\Users\PSBB 9\Desktop\11 b1\exp no 6.py ===== Enter a binary number:11011 27 &gt;&gt;&gt; ===== RESTART: C:\Users\PSBB 9\Desktop\11 b1\exp no 6.py ===== Enter a binary number:1110110110 950 &gt;&gt;&gt;</pre>
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- 7 **Hollow Triangle**  
**Write a program to display a hollow triangle with the number of rows entered as user input.**

	 <pre>Enter the number of rows:5 *  *  *  * ***** &gt;&gt;&gt; ==== RESTART: C:/Users/PSBB 9/Desktop/11 b1/CS Lab CODES/experiment 7.py ==== Enter the number of rows:3 * * ***** &gt;&gt;&gt; ==== RESTART: C:/Users/PSBB 9/Desktop/11 b1/CS Lab CODES/experiment 7.py ==== Enter the number of rows:7 * * * * * ***** V</pre>
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8	<b><u>String Manipulation -I</u></b> <b>Write a program to count and display the number of vowels in a given string.</b>
9	<b><u>String Manipulation -II</u></b> <b>Write a program to count the number of uppercase, lowercase, digits and special characters in a given string.</b>
10	<b><u>List Manipulation</u></b> <b>Write a menu driven program to read a list of integers in ascending order as user input and do the following operations.</b> <ol style="list-style-type: none"> <li>1. Insert an element</li> <li>2. Delete all occurrence of an element</li> <li>3. Display the list.</li> </ol>
11	<b><u>Nested list:</u></b> <b>Write a menu driven program to do the following in a nested list with structure Rollno, Name, Percentage, Remarks.</b> <ol style="list-style-type: none"> <li>1. Append</li> <li>2. Delete by roll</li> <li>3. Edit marks by Roll</li> <li>4. Class average percentage</li> <li>5. Display</li> </ol>
12	<b><u>Tuples:</u></b>

	<p><b>Write a menu driven program to insert and delete one element in a tuple</b></p> <ol style="list-style-type: none"> <li>1. Insert</li> <li>2. Delete</li> <li>3. Display</li> </ol>
<b>13</b>	<p><b><u>Nested Tuples</u></b></p> <p><b>Write a program to display the mean of each element in a nested tuple and the mean of means.</b></p>
<b>14</b>	<p><b><u>Dictionaries-I</u></b></p> <p><b>Write a program to create a dictionary with a key-value pairs(name and phone number) given as user input. Then perform the following operations using a dictionary.</b></p> <ol style="list-style-type: none"> <li>1. Add</li> <li>2. Modify by name</li> <li>3. Delete by name</li> <li>4. Display by name</li> <li>5. Exit</li> </ol>
<b>15</b>	<p><b><u>Dictionaries-II</u></b></p> <p><b>Write a program to create a dictionary with name and marks for 10 students and do the following:</b></p> <ol style="list-style-type: none"> <li>1. Display class average</li> <li>2. Display names of students with highest and lowest marks</li> <li>3. Display the names of students who scored greater than 75</li> <li>4. Display the names of students who scored less than 40</li> <li>5. Display the names and marks in descending order of marks.</li> </ol>