



## **Artificial Intelligence**

### **Lab 04 Tasks**

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1. Write a program that calculates the sum of all even numbers from 1 to 20 using a For loop.

```
AI LAB4 > Task1.py > ...
1  sum_even=0
2  for number in range(1, 21):
3      if number % 2 == 0:
4          sum_even += number
5
6  print("The sum of all even numbers from 1 to 20 is:", sum_even)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS

● PS C:\VAI Lab> python -u "c:\VAI Lab\VAI LAB4\Task1.py"  
The sum of all even numbers from 1 to 20 is: 110  
❖ PS C:\VAI Lab>

2. Find the smallest number in the list.

```
AI LAB4 > Task2.py > ...
1  numbers = [34, 15, 88, 2, 23]
2  smallest = numbers[0]
3  for number in numbers:
4      if number < smallest:
5          smallest = number
6
7  print("The smallest number is:", smallest)
```

● PS C:\VAI Lab> python -u "c:\VAI Lab\VAI LAB4\Task2.py"  
The smallest number is: 2  
❖ PS C:\VAI Lab>

3. Extend the first list with elements from the second list.

```
AI LAB4 > Task3.py > ...
1 list1 = [1, 2, 3]
2 list2 = [4, 5, 6]
3 list1.extend(list2)
4 print(list1)
```

```
PS C:\AI Lab> python -u "c:\AI Lab\AI LAB4\Task3.py"
[1, 2, 3, 4, 5, 6]
PS C:\AI Lab>
```

4. Write a Python program that takes a non-negative integer as input and calculates its factorial using a while loop.

```
AI LAB4 > Task4.py > ...
1 number = int(input("Enter a non-negative integer: "))
2 factorial = 1
3 i = 1
4 while i <= number:
5     factorial *= i
6     i += 1
7 print(f"The factorial of {number} is: {factorial}")
8
```

```
PS C:\AI Lab> python -u "c:\AI Lab\AI LAB4\Task4.py"
Enter a non-negative integer: 8
The factorial of 8 is: 40320
PS C:\AI Lab>
```

5. Check which letter is vowel or which is not. In else condition print “Consonant”?

```
example.py Task1.py Task2.py
AI LAB4 > Task5.py > ...
1 letter = input("Enter a letter: ")
2
3 if letter in 'aeiouAEIOU':
4     print("Vowel")
5 else:
6     print("Consonant")
```

```
PS C:\AI Lab> python -u "c:\AI Lab\AI LAB4\Task5.py"
Enter a letter: f
Consonant
PS C:\AI Lab> 
```