



Artificial Intelligence

Lab 04 Tasks

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Task1.**Solution:**

```
sum_even = 0
for num in range (1,21):
    if num % 2 == 0:
        sum_even += num
print(f"sum of 1 to 20 even numbers is", sum_even)
```

```
sum of 1 to 20 even numbers is 110
```

Task2.**Solution:**

```
list = [12, 45, 67, 89, 43, 7]

smallest = min(list)
print(f'smallest number in this list is ', smallest)
```

```
smallest number in this list is 7
```

Task3.**Solution:**

```
list1 = [23, 'dua', 4.8, 3.97, 'apple']
list2 = [68, 'samreen', 'zainab', 57]

print(f'first list:', list1)
print(f'second list:', list2)
list1.extend(list2)
print(f'after extending first list with second list', list1)
```

```
first list: [23, 'dua', 4.8, 3.97, 'apple']
second list: [68, 'samreen', 'zainab', 57]
after extending first list with second list [23, 'dua', 4.8, 3.97, 'apple', 68, 'samreen', 'zainab', 57]
```

Task4.**Solution:**

```
num = int(input("Enter a non-negative integer: "))
if num < 0:
    print("Error: Factorial is not defined for negative numbers.")
else:
    factorial = 1
    i = 1
    while i <= num:
        factorial *= i
        i += 1
    result = factorial
    print(f"The factorial of {num} is: {result}")
```

```
Enter a non-negative integer: 5
The factorial of 5 is: 120
```

Task5.**Solution:**

```
letter = input("Enter a letter: ")
if letter in 'aeiou':
    print(f'{letter} is a vowel.')
elif letter.isalpha():
    print(f'{letter} is a consonant.')
else:
    print('Invalid input, please enter a letter')
```

```
Enter a letter: u
u is a vowel.
```