

RIPHAH INTERNATIONAL **UNIVERSITY, ISLAMABAD**



Lab#4

Bachelors of Computer Science – 6th Semester

Course: Artificial Intelligence

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Date of Submission: 25-02-2025

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

```
AI_Lab#4_Task#1.py > ...
1  # 1.    Write a program that calculates the sum of
2  sum = 0
3  for num in range(2, 21, 2):
4      sum += num
5
6  print("Sum of even numbers from 1 to 20:", sum)
7
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
[Running] python -u "d:\BSCS_6th_Semester\Artificial_Intel
Sum of even numbers from 1 to 20: 110

[Done] exited with code=0 in 0.314 seconds
```

Task#2: Find the smallest number in the list.

```
AI_Lab#4_Task#2.py > ...  
1 # Find the smallest number in the list.  
2 numbers = [5, 3, 8, 1, 9, 2, 4]  
3  
4 smallest = min(numbers)  
5 print("Smallest number in the list:", smallest)  
6  
7
```

```
"C:\Users\FAR00Q HASSAN\AppData\Local  
Smallest number in the list: 1
```

Task#3: Extend the first list with elements from the second list.

```
# Extend the first list with elements from the second list
list1 = [1, 2, 3]
list2 = [4, 5, 6]

list1.extend(list2)

print("Extended list:", list1)
```

```
"C:\Users\FAR00Q HASSAN\AppData\Local\
Extended list: [1, 2, 3, 4, 5, 6]
```

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

```
def factorial(n): 1 usage
    if n < 0:
        return "Factorial undefined for negative numbers"
    elif n == 0:
        return 1
    else:
        result = 1
        while n > 0:
            result *= n
            n -= 1
        return result

number = int(input("Enter a non-negative integer: "))
print("Factorial of", number, "is:", factorial(number))
```

```
C:\Users\FAR00Q HASSAN\AppData\Loc
Enter a non-negative integer: 0
Factorial of 0 is: 1
```

```
"C:\Users\FAR00Q HASSAN\AppData\Lo
Enter a non-negative integer: 7
Factorial of 7 is: 5040
```

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

```
# check which letter is vowel or which is not
letter = input("Enter a letter: ")

if letter in "aeiouAEIOU":
    print("Vowel")
else:
    print("Consonant")
```

```
Enter a letter: A
A is a vowel
```

```
"C:\Users\FAROOQ HASSA
Enter a letter: r
r is a consonant
```