Loops (While, For)

Assignment Questions

Print numbers from 1 to 5 using a while loop.

Ans:

```
i = 1

while i <= 5:
    print(i)
    i += 1
```

Calculate the sum of numbers from 1 to 10 using a while loop.

Ans:

```
total_sum = 0

number = 1
```

```python
while number <= 10:

    total_sum += number

    number += 1



# Display the result

print("The sum of numbers from 1 to 10 is:", total_sum)
```

The answer is 55

Calculate the factorial of a number using a for loop.

Ans:

```python
# Taking input from the user

num = int(input("Enter a number: "))



# Calculating factorial using a for loop

factorial = 1

for i in range(1, num + 1):

    factorial *= i
```

```python
print(f"Factorial of {num} is {factorial}")
```

Count the number of vowels in a string using a for loop.

Ans:

```python
# Taking input from the user

string = input("Enter a string: ")


# Counting vowels using a for loop

vowels = 'aeiouAEIOU'

count = 0

for char in string:

    if char in vowels:

        count += 1


print(f"Number of vowels in the string is {count}")
```

Print a pattern using nested loops.

Ans:

```python
rows = int(input("Enter the number of rows: "))

for i in range(1, rows + 1):

    for j in range(i):

        print('*', end='')

    print()  # Move to the next line after each row
```

Generate a multiplication table using nested loops.

Ans:

```python
n = int(input("Enter a number to generate its multiplication table: "))

for i in range(1, 11):

    for j in range(1, n + 1):

        print(f"{j} x {i} = {j*i}", end='\t')
```

```
print()  # Move to the next line after each row
```

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