LAB REPORT 01

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SECTION : B

COURSE TITLE: ARTIFACIAL INTEELLIGENCE LAB

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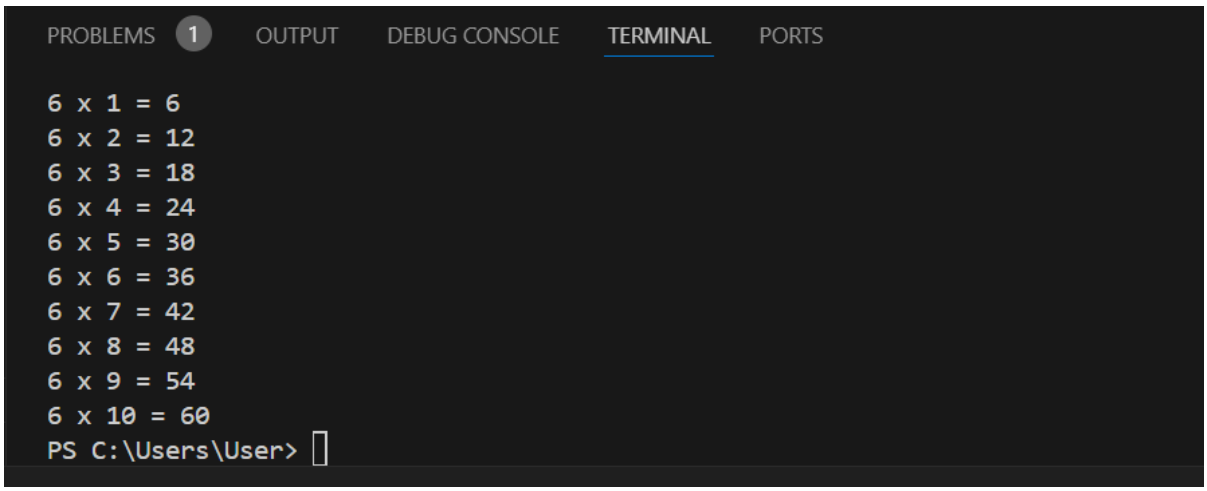
TASK 01

Write a Python Code to write the table of a number given by the user?

INPUT:

OUTPUT:



TASK 02

Write a python code to check wheatear a number is prime or not?

INPUT:

Untitled-1.py 7

C: > Users > User > Untitled-1.py > ...

```python
# Python program to check if a number is prime or not
num = int(input("Enter a number: "))
# Function to check if the number is prime
def is_prime(n):
if n <= 1:
return False
for i in range(2, int(n**0.5) + 1):
if n % i == 0:
return False
return True
# Check and print the result
if is_prime(num):
print(f"{num} is a prime number.")
else:
print(f"{num} is not a prime number.")

```

OUTPUT:

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
36 is not a prime number.
PS C:\Users\User> & C:/Users/User/AppData/Local/Programs/Python/Python312/python.exe c:/Users/User/Untitled-1.py
Enter a number: 14
14 is not a prime number.
PS C:\Users\User> & C:/Users/User/AppData/Local/Programs/Python/Python312/python.exe c:/Users/User/Untitled-1.py
Enter a number: 81
81 is not a prime number.
PS C:\Users\User> & C:/Users/User/AppData/Local/Programs/Python/Python312/python.exe c:/Users/User/Untitled-1.py
Enter a number: 9
```

Activate

TASK 03

Write a Python program that prints numbers from 1 to 10 using a While loop. Modify the while loop to print only even numbers Between 1 and 20?

INPUT:

Untitled-1.py 2

C: > Users > User > Untitled-1.py > ...

```python
# Python program to check if a number is prime or not
num = int(input("Enter a number: "))
print("Numbers from 1 to 10:")
i = 1
while i <= 10:
print(i)
i += 1
print("\nEven numbers between 1 and 20:")
i = 2
while i <= 20:
print(i)
i += 2

```

OUTPUT:

```
PS C:\Users\User> & C:/Users/User/AppData/Local/Programs/Python/Python312/python.exe c:/Users/User/Untitled-1.py
Numbers from 1 to 10:
1
2
3
4
5
6
7
8
9
10

Even numbers between 1 and 20:
2
4
6
8
10
12
14
16
18
20
```


TASK 04

Write a Python program to determine whether the given number Is a Harshad Number. If a number is divisible by the sum of its Digits, then it will be known as a Harshad Number?

INPUT:

Untitled-1.py 7

C: > Users > User > Untitled-1.py > ...

```python
# Python program to check if a number is a Harshad Number
num = int(input("Enter a number: "))
def sum_of_digits(n):
if n == 0:
return 0
total = 0
while n > 0:
total += n % 10
n = n // 10
return total
digit_sum = sum_of_digits(num)
if digit_sum == 0:
print(f"{num} is not a Harshad Number (sum of digits is 0).")
elif num % digit_sum == 0:
print(f"{num} is a Harshad Number.")
else:
print(f"{num} is not a Harshad Number.")

```

OUTPUT:

```
PS C:\Users\User> & C:/Users/User/AppData/Local/Programs/Python/Python312/python.exe c:/Users/User/Untitled-1.py
Enter a number: 17
17 is not a Harshad Number.
PS C:\Users\User> & C:/Users/User/AppData/Local/Programs/Python/Python312/python.exe c:/Users/User/Untitled-1.py
Enter a number: 389
389 is not a Harshad Number.
PS C:\Users\User>
```

CONCLUSION:

In this lab, we have learned the basics of basics of Python programming, including loops, conditionals, and taking input from the user. We have been able to practically implement programs like printing tables, checking

Prime numbers, Harshad numbers, and how to use while loops. This have helped us in understanding python language usage for simple mathematical operations along with enhancing the logical thinking.