PYTHON ASSIGNMENT – 1

1)def factorial(n):

result = 1

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

result \*= i

return result

print(factorial(5))

2)def fibonacci(n):

fib\_sequence = [0, 1]

for i in range(2, n):

next\_fib = fib\_sequence[-1] + fib\_sequence[-2]

fib\_sequence.append(next\_fib)

return fib\_sequence[:n]

print(fibonacci(6))

3)def sum\_of\_digits(number):

total = 0

for digit in str(number):

total += int(digit)

return total

print(sum\_of\_digits(1234))

4)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

print(is\_prime(29))

print(is\_prime(10))

5)def reverse\_string(s):

reversed\_str = ""

for char in s:

reversed\_str = char + reversed\_str

return reversed\_str

print(reverse\_string("hello"))

6)def is\_palindrome(s):

n = len(s)

for i in range(n // 2):

if s[i] != s[n - i - 1]:

return False

return True

print(is\_palindrome("madam"))

print(is\_palindrome("hello"))

7)def print\_multiplication\_table(n):

for i in range(1, 11):

print(f"{n} x {i} = {n \* i}")

print\_multiplication\_table(5)

8)def find\_largest(numbers):

largest = numbers[0]

for num in numbers:

if num > largest:

largest = num

return largest

print(find\_largest([4, 7, 1, 8, 3]))

10)def print\_star\_pattern(rows):

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

print('\*' \* i)

print\_star\_pattern(5)

11)def separate\_even\_odd(numbers):

even\_numbers = []

odd\_numbers = []

for num in numbers:

if num % 2 == 0:

even\_numbers.append(num)

else:

odd\_numbers.append(num)

return even\_numbers, odd\_numbers

evens, odds = separate\_even\_odd([4, 7, 1, 8, 3, 6])

print("Even numbers:", evens)

print("Odd numbers:", odds)

Output : Even numbers: [4, 8, 6]

Odd numbers: [7, 1, 3]

12)def v\_c\_count(w) :

v = ['a','e','i','o','u']

count\_vowels = 0

count\_consonants = 0

for i in w :

if i.lower() in v :

count\_vowels += 1

elif i == " " :

continue

else :

count\_consonants += 1

return count\_vowels,count\_consonants

W = input("Enter the Word :- ")

v,c = v\_c\_count(W)

print("Vowles :-",v,"Consonants :-",c)

Output:Enter the Word :- a,b,c

Vowles :- 1 Consonants :- 4

13)def print\_number\_pattern(n):

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

print(str(i) \* i)

print\_number\_pattern(4)

Output : 1

22

333

4444

14)def print\_multiples(num, limit):

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

multiple = num \* i

if multiple > limit:

break

print(multiple, end=", ")

print\_multiples(3, 20)

Output : 3, 6, 9, 12, 15, 18,

15)def sum\_even\_odd(numbers):

sum\_even = 0

sum\_odd = 0

for num in numbers:

if num % 2 == 0:

sum\_even += num

else:

sum\_odd += num

return sum\_even, sum\_odd

print(sum\_even\_odd([1, 2, 3, 4, 5, 6]))

Output : (12, 9)