PYTHON ASSIGNMENT - 8

Question 1 –

```python
# Write a program to calculate area of rectangle

def rectangle():
    length = int(input("Enter length of rectangle : "))
    breadth = int(input("Enter breadth of rectangle : "))
    area = length * breadth
    print(f"area of rectangle is {area}")

rectangle()
```

Question 2 –

```python
#Write a program to calculate area of circle

def Area_of_circle():
    radius = int(input("Please Enter the radius of the Circle : "))
    area = 3.14 * radius * radius
    print("The Area of the Circle is : " ,area)

Area_of_circle()
```

Question 3 –

```
# a.  1+ 2 + 3 + 4+…. + n
# b. 1!+ 2! + 3! + 4!+…. + n!
# c. 1^1 + 2^2 + 3^3+ …… n^n


def sum_of_number():
    n = int(input("Please Enter the Number : "))
    ans = 0
    for i in range(0 , n):
        ans += i
    print(ans)


def sum_of_Factorial():
    n = int(input("Please Enter the number : "))
    ans = 0
    for i in range(1 ,n):
        ans += i
        for j in range(1 , n):
            ans += i
    print(ans)

def sum_of_square_root():
    n = int(input("Please Enter the number : "))
    ans = 0
    for i in range(0 , n+1):
        count = i * i
        ans += count
    print(ans)



sum_of_number()
sum_of_Factorial()
sum_of_square_root()
```

Question 4 –

```python
# Sum of all odd numbers between 1 to n

def sum_of_odd():
    num = int(input("Please Enter the number : "))
    ans = 0
    for i in range(1 ,num+1):
        if i % 2 != 0:
            ans += i
        else:
            pass
    print("Sum of odd numbers is:",ans)

sum_of_odd()
```

Question 5 –

```python
#Sum of all prime numbers between 1 to n

def sum_of_Prime(n):
    ans = 0
    for i in range(2,n):
        for j in range(2,i):
            if(i % j == 0):
                break
        else:
            ans += i
    print(ans)

n = int(input("Please Enter the Number : "))
sum_of_Prime(n)
```

Question 6 –

```python
# Write a program to find print the following Fibonacci series using functions:

def fibonacci(n):
    a = 1
    b = 1
    for i in range(1,n+1):
        print(a)
        c = a + b
        a = b
        b = c



n = int(input("Please Enter the NUmber : "))
fibonacci(n)
```

Question 7 –

```python
# Write a program find reverse of a number

def reverse_number(num):
    reverse = 0
    while num > 0:
        digit = num % 10
        reverse = reverse * 10 + digit
        num = num // 10
    return reverse

number = 12345
print(f"Reverse of {number}: {reverse_number(number)}")
```

Question 8 –

```python
#Write a program to check if entered number is a palindrome or not.

def is_palindrome(num):
    def reverse_number(num):
        reverse = 0
        while num > 0:
            digit = num % 10
            reverse = reverse * 10 + digit
            num = num // 10
        return reverse

    return num == reverse_number(num)


number = int(input("Please Enter a Number : "))
print(f"Is {number} a palindrome? {is_palindrome(number)}")
```

Question 9 –

```python
#Write a program to check if entered year is a leap year or not.

def is_leap_year(year):
    if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
        return True
    return False


year = 2024
print(f"Is {year} a leap year? {is_leap_year(year)}")
```

Question 10 –

```python
#Q10. WAP to check if given number is Perfect Number.


num = int(input("Enter the number:"))
res = 0

for i in range(1,num//2+1):
    if num % i == 0:
        res = res+i

if res == num:
    print(num,"is perfect number.")
else:
    print(num,"is not perfect number.")
```

Question 11 –

```python
#11. WAP to check if a given number is Armstrong number or not. For each task create separate functions.#
def is_armstrong_number(num):
    sum_of_powers = 0
    temp = num
    digits = len(str(num))
    while temp > 0:
        digit = temp % 10
        sum_of_powers += digit ** digits
        temp //= 10
    return sum_of_powers == num

number = 153
print(f"Is {number} an Armstrong number? {is_armstrong_number(number)}")
```