**Practical No: 13**

**Aim:** Looping: Write a program to: To print all prime numbers from 1 to N. To read age of 15 person and count total Baby age, School age and Adult age.

**Course Outcome: Develop/Use functions in Python programs for modular programming approach.**

**Requirements: Computer, Python 3.3.34, Vs Code.**

**Theory:** Python programming language provides the following types of loops to handle looping requirements. Python provides three ways for executing the loops. While all the ways provide similar basic functionality, they differ in their syntax and condition checking time.

1. While Loop:
2. In python, while loop is used to execute a block of statements repeatedly until a given condition is satisfied. And when the condition becomes false, the line immediately after the loop in the program is executed.

Syntax :

while expression:

statement(s)

        3. All the statements indented by the same number of character spaces after a programming construct are considered to be part of a single block of code. Python uses indentation as its method of grouping statements.

## **Python For Loops**

A for loop is used for iterating over a sequence (that is either a list, a tuple, a dictionary, a set, or a string).

This is less like the for keyword in other programming languages, and works more like an iterator method as found in other object-orientated programming languages.

With the for loop we can execute a set of statements, once for each item in a list, tuple, set etc.

**Flowchart:**

**Program:**

#Aim: print all  prime numbers from 1  to  N.

def PrimeChecker(a):

    if a > 1:

        for j in range(2, int(a/2) + 1):

            if (a % j) == 0:

                break

        else:

            print(a)

N = int(input("Enter the range: "))

for i in range(0,N+1):

    PrimeChecker(i)

#Aim:  To  read age  of  15  person and  count total Baby age, School age  and  Adult age.

age= 0

cnt\_baby=0

cnt\_school=0

cnt\_adult=0

count=0

while (count != 15):

    age = int(input("Enter the age of the person: "))

    if (age <= 5):

        cnt\_baby = cnt\_baby + 1

    elif(age < 18):

        cnt\_school = cnt\_school + 1

    elif(age > 18):

        cnt\_adult = cnt\_adult + 1

    count = count + 1

print("Total Numbers of Baby: ",cnt\_baby)

print("Total Numbers of School age: ",cnt\_school)

print("Total Numbers of Adult age: ", cnt\_adult)

**Output/Result:**

1. **Enter the range: 11**

**2**

**3**

**5**

**7**

**11**

**2)**

**Enter the age of the person: 1**

**Enter the age of the person: 2**

**Enter the age of the person: 3**

**Enter the age of the person: 4**

**Enter the age of the person: 5**

**Enter the age of the person: 6**

**Enter the age of the person: 8**

**Enter the age of the person: 10**

**Enter the age of the person: 12**

**Enter the age of the person: 14**

**Enter the age of the person: 15**

**Total Numbers of Baby: 4**

**Total Numbers of School age: 11**

**Total Numbers of Adult age: 0**

**Conclusion: hence we have performed practical on looping in python**