

Write a program contains a class **Base** that has:

- i. Data members: B[30] (integer), T[30] (char), n (number of elements).
- ii. Function to read data member B and n .
- iii. Function to check if a given number prime or not.
- iv. Function to set the elements of T such that each elem $T_i = 'Y'$ if B_i prime and 'N' otherwise,
- v. Virtual function average to return the average of prime numbers in B (use T's elements).

It contains a class Derive which is a subclass of class from **Base** that has:

- i. Data members: F[30] (large int), h(int).
- ii. Function to return a factorial of a given number.
- iii. Function to read h and set the elements of F such that each $F_i = (B_i)!$ for $i = 0, \dots, n - 1$.
- iv. Function to return the average of elements of F which are greater than h.

In main function, define objects and pointer from all classes to call all functions.