

Name: Mohiuddin Mondal
Roll no. 001910501043
Class: BCSE II Sem: First
Session 2020-21

Assignment Set: 1 Problem No. 3

Problem Statement: Take a four-digit prime number P. Generate a series of large integers L and for each member L_i compute the remainder R_i after dividing L_i by P. Tabulate L_i and R_i . Repeat for seven other four digit prime numbers keeping L_i fixed.

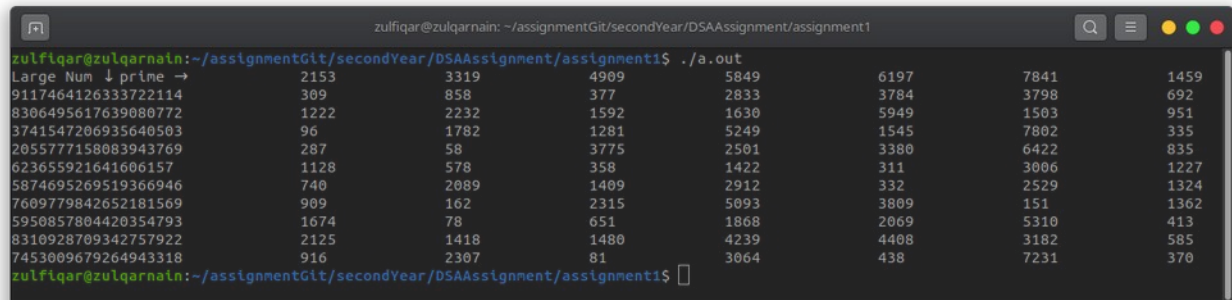
Solution Approach:

Random 4 digit prime numbers are chosen (2153, 3319, 4909, 5849, 6197, 7841, 1459). Large numbers are generated using random number generator, then table is printed.

Structured Pseudocode:

```
prime_arr = { 2153, 3319, 4909, 5849, 6197, 7841, 1459 }
for i=1 to 7:
    num = random()
    rem = num % prime_arr[i]
    print rem
end for
```

Results:



Large Num	↓	prime →	2153	3319	4909	5849	6197	7841	1459
9117464126333722114			309	858	377	2833	3784	3798	692
8306495617639080772			1222	2232	1592	1630	5949	1503	951
3741547206935640503			96	1782	1281	5249	1545	7802	335
2055777158083943769			287	58	3775	2501	3380	6422	835
623655921641606157			1128	578	358	1422	311	3006	1227
5874695269519366946			740	2089	1409	2912	332	2529	1324
7609779842652181569			909	162	2315	5093	3809	151	1362
5950857804420354793			1674	78	651	1868	2069	5310	413
8310928709342757922			2125	1418	1480	4239	4408	3182	585
7453009679264943318			916	2307	81	3064	438	7231	370

Separate files containing commented source code:

source code assignment7.c is attached .