1. Write a constraint to randomly generate unique prime numbers in an array between 1 and 200. The generated prime numbers should have 7 in it (Eg.: 7, 17, 37..) (8m)

2. Write a constraint to generate even and odd numbers with in a range 0f 1022-1063 without using modulus or divide operator. (7m)

3. Define abstraction? Can we create an object for abstract class explain it with a reason? Explain about pure virtual methods with an example? (5m)

4. There exists a data structure where we can store n numbers of physical address corresponding to a virtual address data structure looks like below,

Virtual Address ↓	Physical address →								
10	20	30	40	10					
50	1024	3096							
200	50	200	97						
500	40	500	500	600	700	800	900	5000	4444444
800	2								

   - Create a task insert which takes input as 32 bit Virtual address and 32 bit physical address and when you print the table after every insert operation it should print the structure like above.
   - Create a task Search which takes 32 bit input as Virtual address and it gives 2 output Hit and 32 bit Physical address. If there is no Physical address present corresponding to the virtual address it returns Hit as 0 and Virtual address as 0. If multiple Physical address are present then it returns the last Physical address. (10m)