Round - 2
Set -1
Question - 3

XYZ NUMBERS

Write a program in **C or C++** .to check whether a number is an XYZ number or not.
XYZ numbers are those numbers whose prime factors contain any one of the following:

1. 2 only
2. 3 only
3. 5 only
4. 2&3 only
5. 2&5 only
6. 3&5 only
7. 2,3&5 only

The following numbers are XYZ numbers.
1,2,3,4,5,6,8,9,10,12,15,16,18,20,24,25,27,30,32, ... and so on
1 is included by convention.
In the table below, there are some examples with steps for finding out whether a number is XYZ or not.

Number	Factors	Prime Factors	XYZ
1	1	None	Yes (1 is included by Convention)
2	1,2	2	Yes
3	1,3	3	Yes
5	1,5	5	Yes
6	1,2,3,6	2,3	Yes
7	1,7	**7**	**No**
10	1,2,5,10	2,5	Yes
11	1,11	**11**	**No**
13	1,13	**13**	**No**
14	1,2,7,14	2,**7**	**No**
15	1,3,5,15	3,5	Yes
17	1,17	**17**	**No**
19	1,19	**19**	**No**
21	1,3,7,21	3,**7**	**No**
22	1,2,11,22	2,**11**	**No**
23	1,23	**23**	**No**
26	1,2,13,26	2,**13**	**No**
29	1,29	**29**	**No**
30	1,2,3,5,6,10,15,30	2,3,5	Yes
31	1,31	**31**	**No**
33	1,3,11,33	3,**11**	**No**
50	1,2,5,10,25,50	2,5	Yes
90	1,2,3,5,6,9,10,15,18,30,45,90	2,3,5	Yes
100	1,2,4,5,10,20,25,50,100	2,5	Yes

Hint for program

Step 1: Find factors of the given number.

Step 2: From the factors of the given number, filter in those factors which are prime numbers.

Step 3: If the prime factors satisfy any of the seven cases above then the given number is an XYZ number.