Question 12.2

To determine the value of 10 different yes/no features to the market value of a house (large yard, solar roof, etc.), a real estate agent plans to survey 50 potential buyers, showing a fictitious house with different combinations of features. To reduce the survey size, the agent wants to show just 16 fictitious houses.

Use R's FrF2 function (in the FrF2 package) to find a fractional factorial design for this experiment: what set of features should each of the 16 fictitious houses have?

Note: the output of FrF2 is "1" (include) or "-1" (don't include) for each feature.

The below solution helps to find the Fractional Factorial design using FrF2

```
> # ---------- Question 12.2 ---------- #

> # Clear environment values

>

> rm(list = ls())

>

> # Import library and Call FrF2

>

> library(FrF2)

>

> # Design As per Question, 10 different yes/No future and 16 fictitious houses

> house_design<-FrF2(nruns = 16,nfactors = 10)

>

> house_design
```

	A	B	C	D	E	F	G	H	J	K
1	-1	-1	-1	1	1	1	1	-1	1	-1
2	-1	1	1	1	-1	-1	1	-1	1	-1
3	-1	-1	1	-1	1	-1	-1	1	1	-1
4	1	-1	1	1	-1	1	-1	1	-1	-1
5	1	1	1	1	1	1	1	1	1	1
6	1	1	-1	1	1	-1	-1	1	-1	-1

7	-1	-1	1	1	1	-1	-1	-1	-1	1
8	1	-1	-1	1	-1	-1	1	1	1	1
9	1	-1	-1	-1	-1	-1	1	-1	-1	-1
10	1	1	1	-1	1	1	1	-1	-1	-1
11	1	-1	1	-1	-1	1	-1	-1	1	1
12	-1	-1	-1	-1	1	1	1	1	-1	1
13	1	1	-1	-1	1	-1	-1	-1	1	1
14	-1	1	-1	-1	-1	1	-1	1	1	-1
15	-1	1	-1	1	-1	1	-1	-1	-1	1
16	-1	1	1	-1	-1	-1	1	1	-1	1