

Spectrum of colours

For a given x-coordinate find the RGB-colour in this spectrum of colours.



Score is source length.

Input

In the first line the number of test cases $t < 100$. Then t lines with a x-coordinate ($0 \leq x \leq 767$).

Output

t lines with a colour #RRGGBB ($0x00 \leq RR, GG, BB \leq 0xFF$).

Example

Input:

```
3
0
256
767
```

Output:

```
#FF00FF
#00FFFF
#FF00FE
```