Part 1.2-2

In this case, we need to figure out when $8 * n^2 \leq 64 * n * \log n$.

By plotting it in Matlab, we have the Figure 1:

The Matlab code we used is the following:

```
plot(x,y1,x,y2)
x = linspace(0,60);
y1 = 8 * x.^2;
y2 = 64 * x .* log(x);
figure();
plot(x,y1,x,y2);
legend('8*n^2','64*n*logn');
```

As we see the period that $8 * n^2$ is faster than $64 * n * \log n$ is between 1 and 25. This is easy to calculate from seing the plot and a little bit of trial and error in the edges. **Keep in mind, that since we are talking about inputs, we are only interested in intergers.**

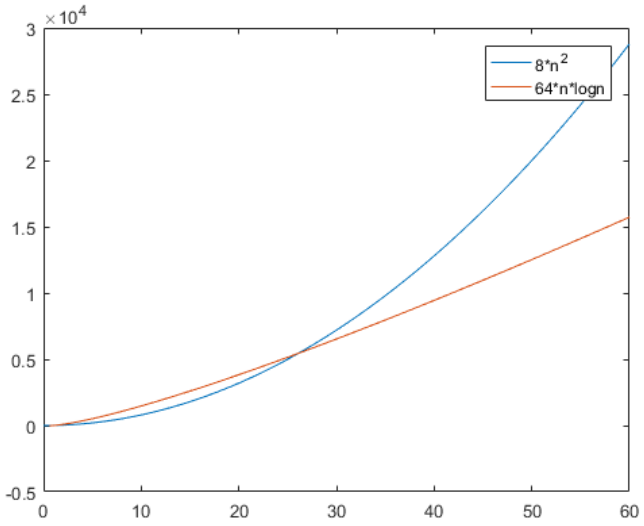

Figure 1: Our plot