1.The better approach to choose the range in the bisection can be looping through values from x=-R to x=R in small steps.After iterating in the interval [x,x+step] we'll check if f(x)*f(x+steps)<0.if yes, then we found the interval that contains a root. this is a better apporach because it will take approximately 0.01 second in search but it will reduce the time and iteration for bisection.

Lets take an example,

$$f(x)=x^3 - x - 2$$

Instead of guessing the range, we automatically search for the root.We'll walk along the x-axis from `x = -10` to `x = 10`, in small steps (like 0.5). Between `x = 1.5` and `x = 2.0`, the value of `f(x)` changes sign(from negative to positive). That means there's a root in between.

| Method | Search Time | Iterations | Total Time |
|---|---|---|---|
| Traditional | 0.0s | 14 | 0.07s |
| Better Method | 0.01s | 10 | 0.01 + (10×0.005) = 0.06s |

If checking between –10 to 10 fails, and the root lies outside that range, then if we take bigger range like –100 to 100 it'll also take less time and iteration from traditional method.So,we can say that it is a better approach.