

Polynomial Hash:

	10	33	37	39	41
total collisions	7404	372	244	306	257
Max collisions	6	4	4	4	4

MAD Compress

	10	33	37	39	41
total collisions	103428	80134	79467	90709	75415
Max collisions	8	7	7	7	7

I would handle overflow by chaining as you can fit multiple collisions in an array also to get values that were negative in the compression by taking the absolute value, as you can't put a negative index so our formula looks like $(|a \cdot i + b| \bmod p) \bmod N$. This would create more collisions

I found choosing a very large α value creates less collisions, β does not impact as much as α does, I choose a fairly low β at 10000

$$\alpha = 500\,000 \quad \beta = 10\,000$$