

$f \rightarrow$ analytically intractable distn. from which ~~sampling~~ samples are acquired.

$q \rightarrow$ a smooth distn., in general, over the same support, from which sample drawing is straightforward.

are known.

$f =$ target density

$q =$ proposal density

$$f.c.e. \cdot q(x) \geq f(x) \quad \forall x.$$

let $c(\geq 1)$ be a constant such that $q(x) = c f(x)$ majorizes

The algorithm:

1. Draw a sample x from
2. Draw y from $R(0, q)$

for given x .

3. If $y \leq f(x)$, accept x as ^{o.w.} reject & continue.

Note that $y | x \sim R(0, q(x))$

$$\Rightarrow y \sim R(0, 1)$$

$$f.c.e. \cdot y \leq f(x) \quad \text{where } y \sim R(0, 1)$$

y is independent of x .

When the algorithm can be restated as:

- 1) generate x from q .
- 2) generate y from $R(0, 1)$ independently

3) If $y \leq f(x)$, accept x .