create unlogged table t (a bigint, b text) with (fillfactor = 20);
insert into t select -1 * a, b from (select r, a, b, generate$_{series}$(0,32-1) AS p from (select row$_{number}$() over () AS r, a, b from (select i AS a, md5(i::text) AS b from generate$_{series}$(1, 312500) s(i) ORDER BY (i + 65536 * (random() - 0.5))) foo) bar) baz ORDER BY ((r * 32 + p) + 128 * (random() - 0.5));
create index idx on t(a ASC);

cold
SELECT * FROM t WHERE a BETWEEN $1 AND $2 ORDER BY a ASC

cold (log)
SELECT * FROM t WHERE a BETWEEN $1 AND $2 ORDER BY a ASC

cold
SELECT * FROM t WHERE a BETWEEN $1 AND $2 ORDER BY a DESC

cold (log)
SELECT * FROM t WHERE a BETWEEN $1 AND $2 ORDER BY a DESC

warm
SELECT * FROM t WHERE a BETWEEN $1 AND $2 ORDER BY a ASC

warm (log)
SELECT * FROM t WHERE a BETWEEN $1 AND $2 ORDER BY a ASC

warm
SELECT * FROM t WHERE a BETWEEN $1 AND $2 ORDER BY a DESC

warm (log)
SELECT * FROM t WHERE a BETWEEN $1 AND $2 ORDER BY a DESC