```
-- We will use 2 locally managed tablespaces, both with automatic segment space
management but one with a uniform extent size and one with system generated extent
sizes

SQL> select tablespace_name, extent_management, allocation_type,
segment_space_management from dba_tablespaces where tablespace_name in ('USERS',
'USERS3');

TABLESPACE_NAME                EXTENT_MAN ALLOCATIO SEGMEN
------------------------------ ---------- --------- ------
USERS                          LOCAL      SYSTEM    AUTO
USERS3                         LOCAL      UNIFORM   AUTO

-- Create one index in a tablespace with uniform extent sizes

SQL> create table shrink_index tablespace users3 as select rownum i from dual connect
by level <=1000000;

Table created.

SQL> create index shrink_index_idx on shrink_index(i) tablespace users3;

Index created.


-- Create one index in a tablespace with system generated extent sizes

SQL> create table shrink_index2 tablespace users as select rownum i from dual connect
by level <=1000000;

Table created.

SQL> create index shrink_index2_idx on shrink_index2(i) tablespace users;

Index created.


-- Note both indexes have the same data and the same number of index leaf blocks

SQL> select index_name, leaf_blocks from user_indexes where index_name like
'SHRINK_INDEX%';

INDEX_NAME                     LEAF_BLOCKS
------------------------------ -----------
SHRINK_INDEX2_IDX                     2226
SHRINK_INDEX_IDX                      2226


-- However, both indexes have different number of extents

SQL> select segment_name, bytes, blocks, extents from user_segments where segment_name
like 'SHRINK_INDEX%' and segment_type = 'INDEX';

SEGMENT_NAME              BYTES     BLOCKS    EXTENTS
------------------- ---------- ---------- ----------
SHRINK_INDEX2_IDX      18874368       2304         33
SHRINK_INDEX_IDX       18874368       2304         18


-- The index with Uniform extent sizes has 18 extents, all with the 1M uniform size
(block size is 8K)

SQL> select segment_name, extent_id, blocks from dba_extents where
segment_name='SHRINK_INDEX_IDX' order by extent_id;

SEGMENT_NAME          EXTENT_ID     BLOCKS
------------------- ---------- ----------
SHRINK_INDEX_IDX               0        128
SHRINK_INDEX_IDX               1        128
SHRINK_INDEX_IDX               2        128
SHRINK_INDEX_IDX               3        128
SHRINK_INDEX_IDX               4        128
SHRINK_INDEX_IDX               5        128
SHRINK_INDEX_IDX               6        128
SHRINK_INDEX_IDX               7        128
SHRINK_INDEX_IDX               8        128
SHRINK_INDEX_IDX               9        128
SHRINK_INDEX_IDX              10        128
SHRINK_INDEX_IDX              11        128
SHRINK_INDEX_IDX              12        128
SHRINK_INDEX_IDX              13        128
SHRINK_INDEX_IDX              14        128
SHRINK_INDEX_IDX              15        128
SHRINK_INDEX_IDX              16        128
SHRINK_INDEX_IDX              17        128

18 rows selected.
```

```
-- However, the index with the system generated extents has 33 extents, 16 of them 64K
each and 17 with 1M extent sizes

SQL> select segment_name, extent_id, blocks from dba_extents where segment_name=
'SHRINK_INDEX2_IDX' order by extent_id;

SEGMENT_NAME          EXTENT_ID     BLOCKS
-------------------- ---------- ----------
SHRINK_INDEX2_IDX             0          8
SHRINK_INDEX2_IDX             1          8
SHRINK_INDEX2_IDX             2          8
SHRINK_INDEX2_IDX             3          8
SHRINK_INDEX2_IDX             4          8
SHRINK_INDEX2_IDX             5          8
SHRINK_INDEX2_IDX             6          8
SHRINK_INDEX2_IDX             7          8
SHRINK_INDEX2_IDX             8          8
SHRINK_INDEX2_IDX             9          8
SHRINK_INDEX2_IDX            10          8
SHRINK_INDEX2_IDX            11          8
SHRINK_INDEX2_IDX            12          8
SHRINK_INDEX2_IDX            13          8
SHRINK_INDEX2_IDX            14          8
SHRINK_INDEX2_IDX            15          8
SHRINK_INDEX2_IDX            16        128
SHRINK_INDEX2_IDX            17        128
SHRINK_INDEX2_IDX            18        128
SHRINK_INDEX2_IDX            19        128
SHRINK_INDEX2_IDX            20        128
SHRINK_INDEX2_IDX            21        128
SHRINK_INDEX2_IDX            22        128
SHRINK_INDEX2_IDX            23        128
SHRINK_INDEX2_IDX            24        128
SHRINK_INDEX2_IDX            25        128
SHRINK_INDEX2_IDX            26        128
SHRINK_INDEX2_IDX            27        128
SHRINK_INDEX2_IDX            28        128
SHRINK_INDEX2_IDX            29        128
SHRINK_INDEX2_IDX            30        128
SHRINK_INDEX2_IDX            31        128
SHRINK_INDEX2_IDX            32        128

33 rows selected.


-- Now let's shrink both indexes and see what happens …

SQL> alter index shrink_index_idx shrink space;

Index altered.

SQL> alter index shrink_index2_idx shrink space;

Index altered.


-- Note both indexes still have 2226 leaf blocks each. Being just created indexes, the
shrink command has made no difference to the index structure of either index …

SQL> select index_name, leaf_blocks from user_indexes where index_name like 'SHR
INK_INDEX%';

INDEX_NAME                    LEAF_BLOCKS
------------------------------ -----------
SHRINK_INDEX2_IDX                    2226
SHRINK_INDEX_IDX                     2226


-- Note that both indexes also have the same number of extents as expected, as again
the indexes have just been created and been allocated the necessary extents

-- BUT the bytes and the blocks of the index in the ASSM tablespace has reduced
whereas the bytes and the blocks of the index in the Uniform tablespace remains
unchanged ...

SQL> select segment_name, bytes, blocks, extents from user_segments where segmen
t_name like 'SHRINK_INDEX%' and segment_type = 'INDEX';

SEGMENT_NAME              BYTES     BLOCKS    EXTENTS
-------------------- ---------- ---------- ----------
SHRINK_INDEX2_IDX      18677760       2280         33
SHRINK_INDEX_IDX       18874368       2304         18
```

-- Note that the index with the uniform extent sizes still has all 18 extents fixed at the uniform size.

```
SQL> select segment_name, extent_id, blocks from dba_extents where segment_name=
'SHRINK_INDEX_IDX' order by extent_id;

SEGMENT_NAME          EXTENT_ID     BLOCKS
-------------------- ---------- ----------
SHRINK_INDEX_IDX              0        128
SHRINK_INDEX_IDX              1        128
SHRINK_INDEX_IDX              2        128
SHRINK_INDEX_IDX              3        128
SHRINK_INDEX_IDX              4        128
SHRINK_INDEX_IDX              5        128
SHRINK_INDEX_IDX              6        128
SHRINK_INDEX_IDX              7        128
SHRINK_INDEX_IDX              8        128
SHRINK_INDEX_IDX              9        128
SHRINK_INDEX_IDX             10        128
SHRINK_INDEX_IDX             11        128
SHRINK_INDEX_IDX             12        128
SHRINK_INDEX_IDX             13        128
SHRINK_INDEX_IDX             14        128
SHRINK_INDEX_IDX             15        128
SHRINK_INDEX_IDX             16        128
SHRINK_INDEX_IDX             17        128

18 rows selected.
```

-- However note the index with the system generate extents sizes has changed. The shrink command has de-allocated, all the unused portion off the last extent and reduced the size of the last extent from 128 blocks down to 104 blocks.

```
SEGMENT_NAME          EXTENT_ID     BLOCKS
-------------------- ---------- ----------
SHRINK_INDEX2_IDX             0          8
SHRINK_INDEX2_IDX             1          8
SHRINK_INDEX2_IDX             2          8
SHRINK_INDEX2_IDX             3          8
SHRINK_INDEX2_IDX             4          8
SHRINK_INDEX2_IDX             5          8
SHRINK_INDEX2_IDX             6          8
SHRINK_INDEX2_IDX             7          8
SHRINK_INDEX2_IDX             8          8
SHRINK_INDEX2_IDX             9          8
SHRINK_INDEX2_IDX            10          8
SHRINK_INDEX2_IDX            11          8
SHRINK_INDEX2_IDX            12          8
SHRINK_INDEX2_IDX            13          8
SHRINK_INDEX2_IDX            14          8
SHRINK_INDEX2_IDX            15          8
SHRINK_INDEX2_IDX            16        128
SHRINK_INDEX2_IDX            17        128
SHRINK_INDEX2_IDX            18        128
SHRINK_INDEX2_IDX            19        128
SHRINK_INDEX2_IDX            20        128
SHRINK_INDEX2_IDX            21        128
SHRINK_INDEX2_IDX            22        128
SHRINK_INDEX2_IDX            23        128
SHRINK_INDEX2_IDX            24        128
SHRINK_INDEX2_IDX            25        128
SHRINK_INDEX2_IDX            26        128
SHRINK_INDEX2_IDX            27        128
SHRINK_INDEX2_IDX            28        128
SHRINK_INDEX2_IDX            29        128
SHRINK_INDEX2_IDX            30        128
SHRINK_INDEX2_IDX            31        128
SHRINK_INDEX2_IDX            32        104

33 rows selected.
```

-- As the system generated extent tablespace doesn't insist on each extent being a specific size, the shrink command has had an effect, even if the segment has only just been created …