A reversible word square is one in which every row can be read backwards, and every column upwards. Every word must be either a reversible word such as LANRET (TERNAL in reverse) or a palindrome, which is a special kind of reversible word. In this article, the term reversible word does not include palindromes. In general, counts include valid rotations and reflections.

Out of a total of 491187 6-letter words, there were 23492 reversible words plus 645 palindromic words, which can be used to make many many millions of squares.

Consider the characteristics of some extreme types of square. Firstly, try to make a square with no palindromes:

\[
\begin{array}{cccccc}
A & B & C & D & E & F \\
B & G & H & I & J & K \\
C & H & L & M & N & O \\
D & I & M & a & b & c \\
E & J & N & b & d & e \\
F & K & O & c & e & f \\
\end{array}
\]

Next, try to make a square with all palindromes, starting with the first three rows:

\[
\begin{array}{cccccc}
A & B & C & C & B & A \\
B & D & E & E & D & B \\
C & E & F & F & E & C \\
C & E & F & F & E & C \\
B & D & E & E & D & B \\
A & B & C & C & B & A \\
\end{array}
\]

Note you can only have three different palindromes. All diagonals are the same - ADFFDA, and there are only six different letters.

**Squares with unrestricted vocabulary**

The following squares are in descending order of quality. They all have words for the three diagonals, and all rows are different.

\[
\begin{array}{cccccc}
E & S & S & A & R & T \\
S & E & I & L & E & R \\
S & I & E & L & L & A \\
A & L & L & E & I & S \\
R & E & L & I & E & S \\
T & R & A & S & S & E \\
\end{array}
\]

NW & SE: EEEEEE ee-ee-ee, EDD

\[
\begin{array}{cccccc}
T & R & A & S & S & E \\
R & E & L & I & E & S \\
A & L & L & E & I & S \\
S & I & E & L & L & A \\
S & E & I & L & E & R \\
E & S & S & A & R & T \\
\end{array}
\]

NE: TELLET

Tellet er Rmel, Algeria

pickle 2, 1513q

\[vide supra\]
ESSART  see sum 1  TRASSE  red, 1973q, Etelis marshi
SLIKER  9°30, -3°32, Côte d'Ivoire  REKILS  4°14, -59°02, Guyana
SILETE  Jebel el Akeira, Sudan  ETELIS  see start
AKEIRA  TERTER  tee-eet, Afrikaans, Pal
RETRET  STAERT
TREATS
NW: ELLIES  Ellies Kolk, South Africa NE: TEEEET
SE: SEILLE
STARTS
TERRIT
ARARRE (El) 10°45, 50°18, Somalia  STRATS  Er Ra'ra, Algeria
RRRRR  Joyce, Ulysses  TIRRET  vide supra
TIRRET  STERTS
STERTS  start, 1673q  NE: SIRRSIR
NW: SEARES  seare  siris
SE: SERAES  sierra 1a, 1632q

STRATS  vide supra  STARRTS  -2°15, 99°37, Indonesia
TEARAT  tea rat, Longmans  TARAET  Regnar Oliefelt, Denmark
RANGER  TERRIT
ARGANO  Ormos Argano, Greece  ONAGRA  lineate, 1648q
AENIL  teanel  LINEAT  42°36, 1°32, Andorra
STROLL  LLORTS  Pal (place)

NW: SENAIL  23°51, 90°10, Bangladesh NE: SAGGAS
SE: LIANES  liane

STAERT  see start  TREATS
TERTER
ARREL A  Corrego Arrela, Brazil  ALERRA  6°51, 34°38, Ethiopia
TERES  eater 1a, 1340q  SERETE  Vadul na Serete, Ukraine
RELEAS  SAELER  US Census
TRASSE  ESSART  vide supra
NW: SERRAES  serra  NE: TEEEET
SE: EARRES  inveigle 2f, 1610q

STAERT  see start  TREATS  vide supra
TATTER
ARIELA  8°05, 1°53, Benin  ALIITA  Mechta Hennchir Rettat
ETERE S  vide supra  36°00, 7°04, Algeria
ETERS  vide supra
RELEIS  releisi(che)  UE Censu
TRASSE  ESSART
NW: SAIERR  sorry  NE: TEEEET  vide supra
SE: ERIAS  Eirias High School, Conwy, Clwyd
It may be better to use a much smaller but higher quality vocabulary of 49886 6-letter words, containing 374 reversible words plus 319 palindromic words, which can be used to make just three squares. None of the squares below have valid words for diagonals.

**Squares from a restricted vocabulary**

It may be better to use a much smaller but higher quality vocabulary of 49886 6-letter words, containing 374 reversible words plus 319 palindromic words, which can be used to make just three squares. None of the squares below have valid words for diagonals.

**This square has no palindromes**

<table>
<thead>
<tr>
<th>KRAME R</th>
<th>cramer (or famous fam. name)</th>
<th>R E M A R K</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROMANE</td>
<td>Romane</td>
<td>E N A M O R</td>
</tr>
<tr>
<td>AMUNAM</td>
<td>Web2</td>
<td>M A N U M A</td>
</tr>
<tr>
<td>MANUMA</td>
<td>vide supra</td>
<td>AMUNAM</td>
</tr>
<tr>
<td>ENAMOR</td>
<td>vide supra</td>
<td>R O M A N E</td>
</tr>
<tr>
<td>REMARK</td>
<td>vide supra</td>
<td>K R A M E R</td>
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</table>

**This square has no palindromes**

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<tr>
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same diagonals as above

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same diagonals as above
This square has two palindromes

| GE LD ER | R E D L E G | Web2 |
| ES A ASE | ES A ASE | ditto |
| LAN RET | T E R N A L | |
| DAR TER | R E T R A D | Web2 |
| E S E E SE | E S E E SE | ditto |
| RET RET | T E R T E R | |

This square has three palindromes

| REL LER | US Census family name | REL LER | ditto |
| ESA ASE | vide supra | ESA ASE | vide supra |
| LAINED | lain, verb | DENIAL | |
| LANGER | REGNAL | |
| E SSE ESE | vide supra | E SSE ESE | vide supra |
| REDREW | redraw, verb, Web2 | WERDER | |

Unmarked words are from the OED. EDD = English Dialect Dictionary. bl = below line. Ip = ITIS plant. Pal is the Palindromicon. Places are from the NIMA database. Web2 is Webster's Second.

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