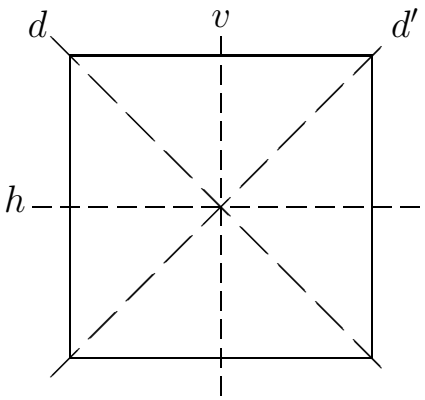
Multiplication Table for Symmetries of the Square



R_0 = 0° rotation

R_{90} = 90° CCW rotation about the center

R_{180} = 180° rotation about the center

R_{270} = 270° CCW rotation about the center

H = Reflection through h

V = Reflection through v

D = Reflection through d

D' = Reflection through d'

$\circ$	H	V	D	D'	R_0	R_{90}	R_{180}	R_{270}
H	R_0	R_{180}	R_{90}	R_{270}	H	D	V	D'
V	R_{180}	R_0	R_{270}	R_{90}	V	D'	H	D
D	R_{270}	R_{90}	R_0	R_{180}	D	V	D'	H
D'	R_{90}	R_{270}	R_{180}	R_0	D'	H	D	V
R_0	H	V	D	D'	R_0	R_{90}	R_{180}	R_{270}
R_{90}	D'	D	H	V	R_{90}	R_{180}	R_{270}	R_0
R_{180}	V	H	D'	D	R_{180}	R_{270}	R_0	R_{90}
R_{270}	D	D'	V	H	R_{270}	R_0	R_{90}	R_{180}