The Hoffman-Singleton graph $H$, a member of the small family of Moore graphs of diameter 2, is a well known 7-regular undirected graph with 50 vertices and 175 edges. We construct $H$ as a rank 3 graph with subdegrees $(1, k=7$ and $l=42)$, using the alternating group $A_7$. There are 63 distinct $A_5$’s in $A_7$ which fall into exactly two conjugacy classes of subgroups of sizes 21 and 42. An $A_5$ of the first class of size 21 fixes two points, whereas an $A_5$ of the second class of size 42 fixes one point and acts transitively on the remaining 6 points. We use the 42 $A_5$’s of the second class to construct the Hoffman-Singleton graph. This construction is possible because $S_6$ is the only member of the family of symmetric groups $S_n$ to possess outer-automorphisms.

(Received September 03, 2014)