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Binary Codes from the Projective Symplectic Group $S_8(2)$.

We find all of the binary codes constructed from the primitive permutation representation of the projective symplectic group $S_8(2)$ of degree 255. It is shown that in total we have 76 non - trivial and non - isomorphic codes. The properties of the codes with small dimension are given and links with modular representation theory established. Further from the support of the codewords, we construct the 1 and 2 - designs associated to the code and the graphs of the designs.

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