Please let me know if any of the problems are unclear or have typos.

Exercise 6.1. Suppose F is a *wallpaper orbifold*: F is closed and $\chi^{\mathrm{orb}}(F) = 0$. Show F is finitely covered by $\mathbb{T}^2$ and thus F is good.

Exercise 6.2. Show the teardrop and spindle orbifolds are bad. [This is the easy direction of Theorem 2.3 of Scott's article.]

Exercise 6.3. [Medium] Suppose $\rho\colon F \to E$ and $\sigma\colon G \to E$ are orbifold covering maps. Show that there is an orbifold H having a pair of orbifold covering maps $\tau\colon H \to F$ and $\upsilon\colon H \to G$.

Exercise 6.4. Suppose $\rho\colon F \to E$ is an orbifold covering. Show that F is good if and only if E is good.

Exercise 6.5. [Very hard] Suppose F is a compact good two-orbifold. Give a direct topological proof that there is a orbifold covering $\rho\colon E \to F$, with E a surface, where ρ has finite degree. [This is Theorem 2.5 from Scott's article.]

Exercise 6.6. [Reading] Review the statement of the uniformization theorem for surfaces. Using Exercise 6.5, prove if F is a closed good orbifold then F admits a geometric structure modelled on one of $\mathbb{S}^2$, $\mathbb{E}^2$, or $\mathbb{H}^2$. [This is Theorem 2.4 from Scott's article. The development here is a bit different!]

Exercise 6.7. Compute presentations for $\pi_1^{\mathrm{orb}}(F)$ as F ranges over the wallpaper orbifolds.

Exercise 6.8. Compute presentations for $G = \pi_1^{\mathrm{orb}}(S^2(p,q,r))$ and $H = \pi_1^{\mathrm{orb}}(D^2(\bar{p},\bar{q},\bar{r}))$. Recall that there is a two-fold covering map $\rho\colon S^2(p,q,r) \to D^2(\bar{p},\bar{q},\bar{r})$. Describe how $\rho_*\colon G \to H$ transforms the generators; show that the image is index two.