

SW3 – Chessboard with Style

Using the base part made during the SW2 homework, we will be making chess pieces and placing them on a board. You will be making six individual chess piece designs including: King, Queen, Rook, Bishop, Knight, and Pawn (one of each) and then using an assembly to fully setup one side (black or white) on a chessboard. You also get to theme your chess set however you prefer.

More creative/cohesive themes can earn some bonus points!

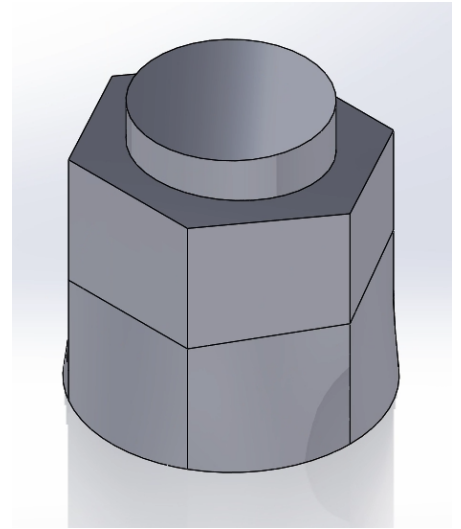
Chess Pieces:

Each piece needs to be on the base you created previously in SW2 (image above). Each part should sit atop the flat circle platform at the top of the part.

Throughout your chess pieces, you must use the following techniques/shapes **each least once** in your project. You will use more than just these techniques!

- 3-point arc
- Spline
- Polygon
- Mirror Entities
- Lofts
- Revolved Boss/Base
- Fillet
- Draft

Since you are building to a theme, you have freedom to make pieces that do not look like a standard chess set. We will determine which piece is which using the height of the piece and its placement on the board. The order of the pieces by height from tallest to shortest should be; **King, Queen, Bishop, Knight, Rook, Pawn.**





Chessboard:

A chessboard is 64 squares (8 by 8). We are giving this part to you, so please **download the part file from Canvas (Chessboard.sldprt)**. Place each piece in the center of the correct square and duplicate the pieces in the Assembly as needed to make the correct number of total pieces (1 king, 1 queen, 2 bishops, 2 knights, 2 rooks, and 8 pawns). Setup as if a game is about to start. The setup of the board is shown on the picture to the right (King is D1). **You need to setup only one side of the board** (either white or black).



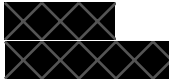
Themes:

Your set of chess pieces must have a theme. It does not need to be too complex, but it will help make your chess set more distinct and personalized. I leave this part of the assignment very-open, so that you may choose a theme that interests you. Keep your knowledge of Solidworks in mind when making a theme!



Warning: This assignment is very open-ended. The goal is to give you the freedom to use the techniques you have learned to make a 'cool' final product. We will focus on looking at where you take this assignment and the effort you put into this assignment. If you want help figuring out how to approach such an open-ended problem, ask me and I will help you get started!

Submission:



Due on midnight on the due date listed on Canvas, please give me:

Parts files (.sldprt)

- Each chess piece
- The chessboard

Assembly file (.sldasm)

- Fully completed chessboard with one side ready to play
Please note that we need EVERY part file for the assembly to load properly for our graders, so if your assembly does not load because you are missing a parts file, we will deduct points.

A brief report (.pdf) including

- Your theme
- A bullet pointed list of where you used each of the listed techniques for the pieces and which piece(s) they were used on
- One screen shot of your chessboard assembly fully setup in a view that best shows off your chess pieces (be an artist!)
- **In the report appendix: Drawing files** with all with 3 standard view + isometric view, in .pdf, .png, or .jpg) of:
 - Each chess piece (on or not on the base is okay)
 - Assembly of fully completed Chessboard with one side ready to play

Expectations:

Pieces

- Use all of the listed techniques and explain them in the report
- There must be 6 unique pieces (King, Queen, Bishop, Knight, Rook, Pawn)
- Each piece should fit into the chosen theme

Chess

- Each piece is finished, an appropriate height, and placed on their proper location on the board
- Assembly finished and properly setup
- Drawing files included as a .pdf, .png, or .jpg in the report. Each drawing shows 3 views + the isometric view
- Theme used creativity and explained properly in the report