Robotics Studio MECE 4611
Spring 2024
Assignment 1

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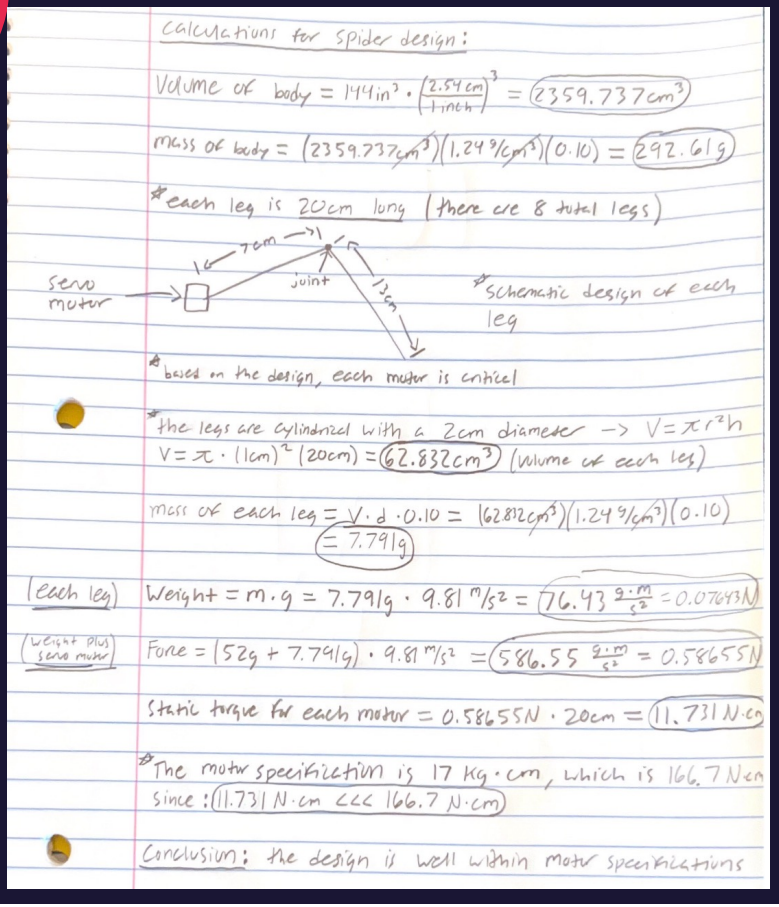
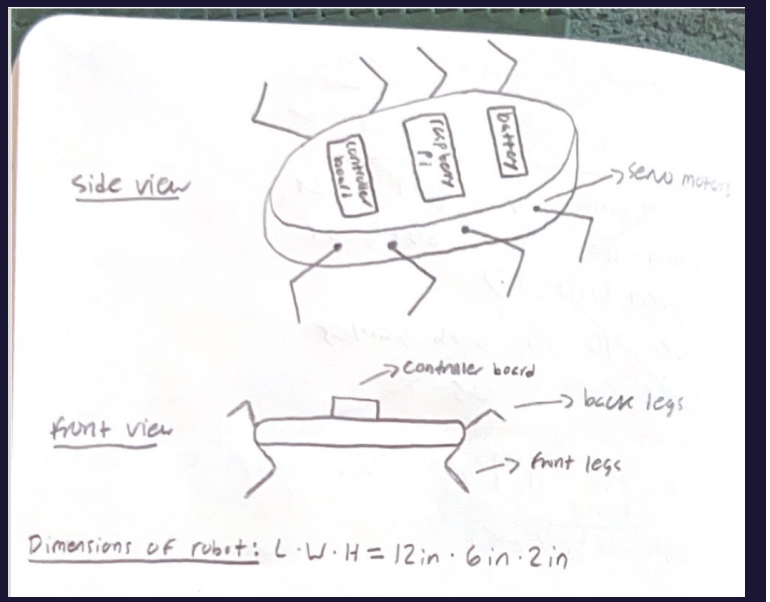
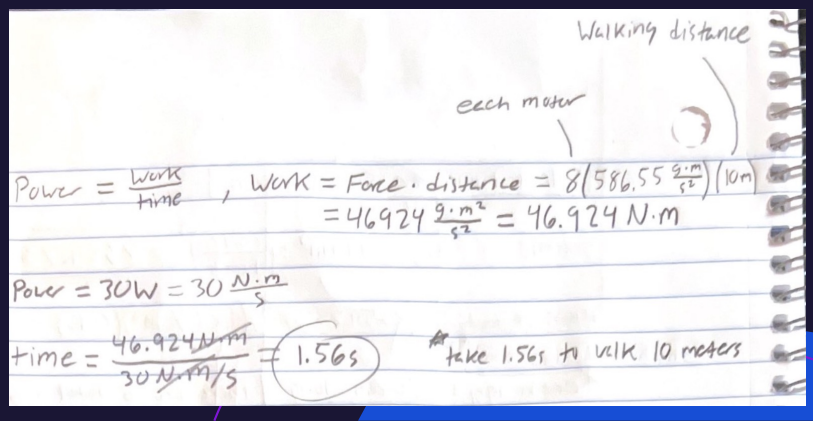
Submission: 1/28/24 at 8:40pm
Grace hours: 96+3:20

Concept 1 – Spider/Arachnid design

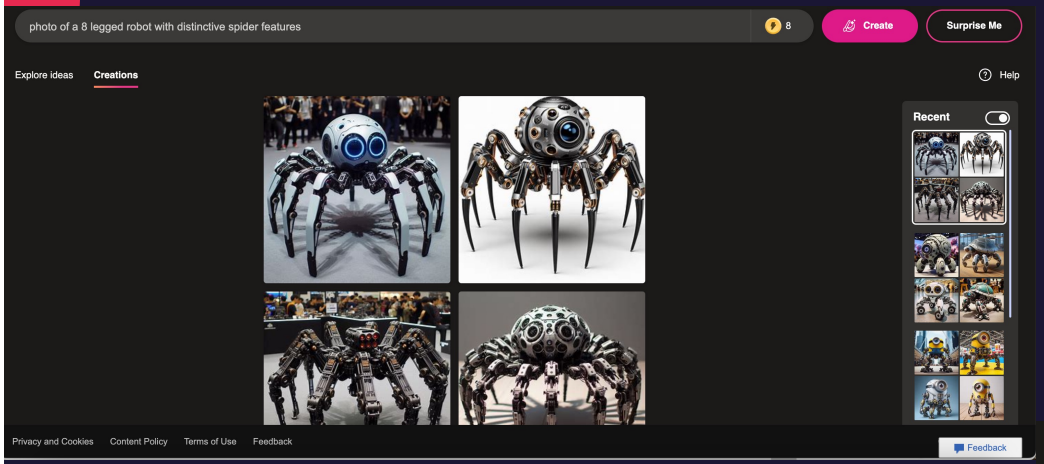
- This design is of an eight-legged robot that is inspired by spiders' physical characteristics.



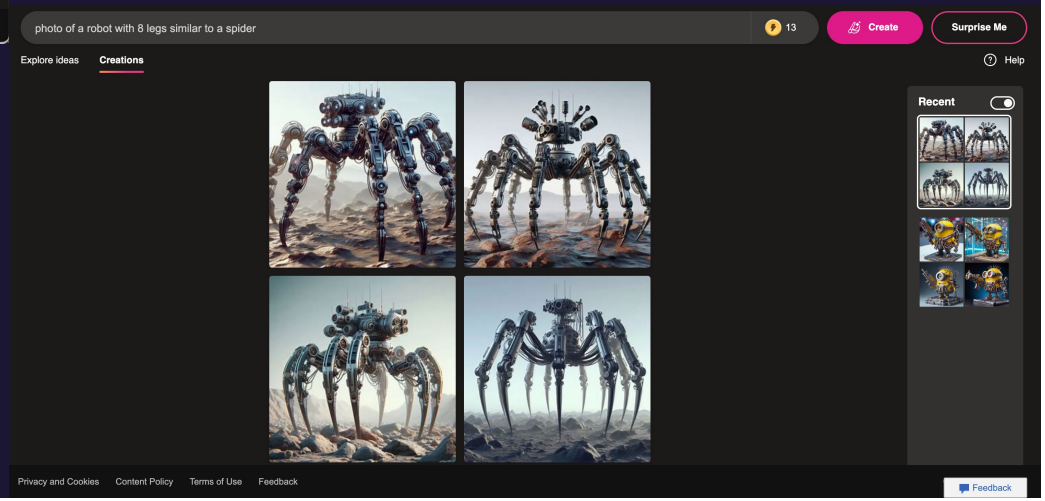




Concept 1 – Spider/Arachnid design using AI

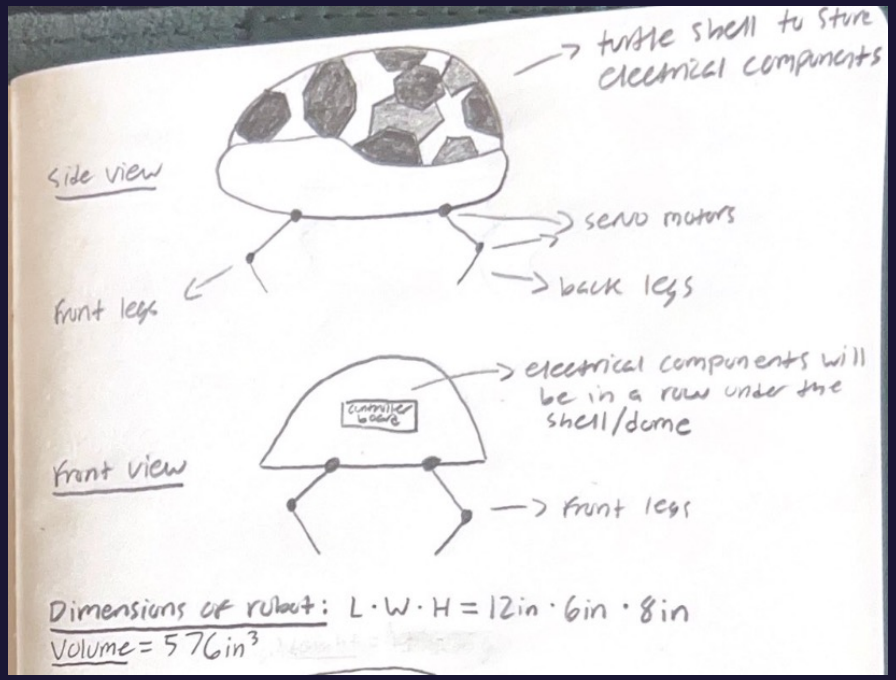


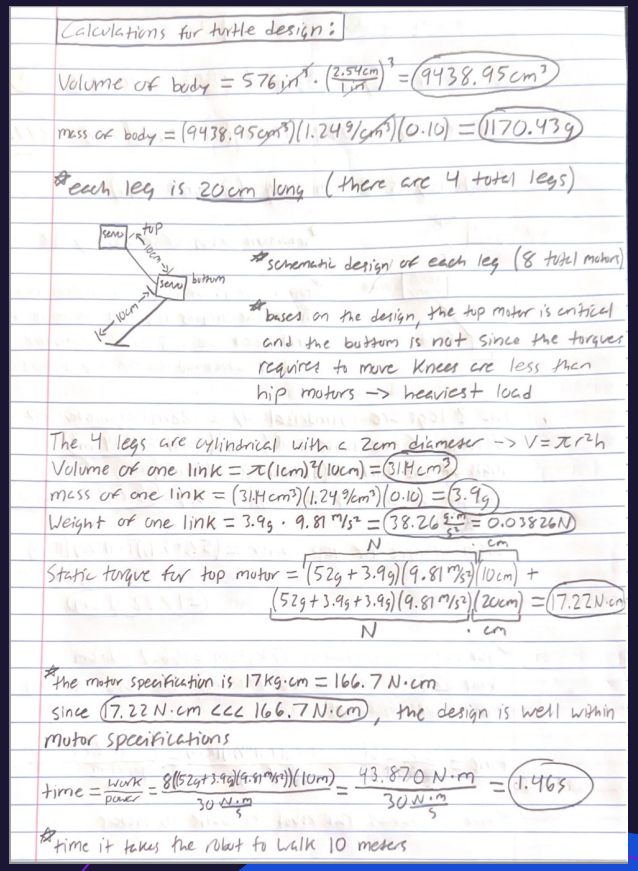
- I used the generative AI models to improve my designs and sketches.
- They helped me position joints and servo motors in spots I wouldn't have initially chosen.



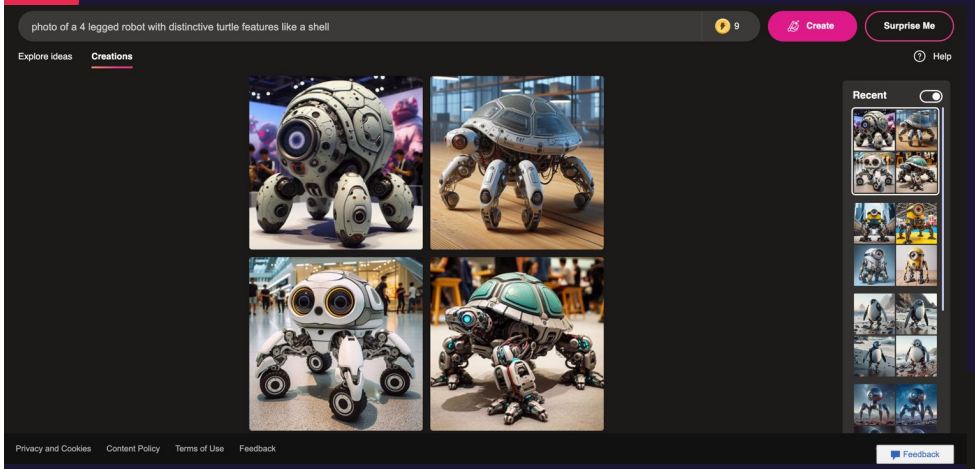
Concept 2 – Turtle/Quadruped design

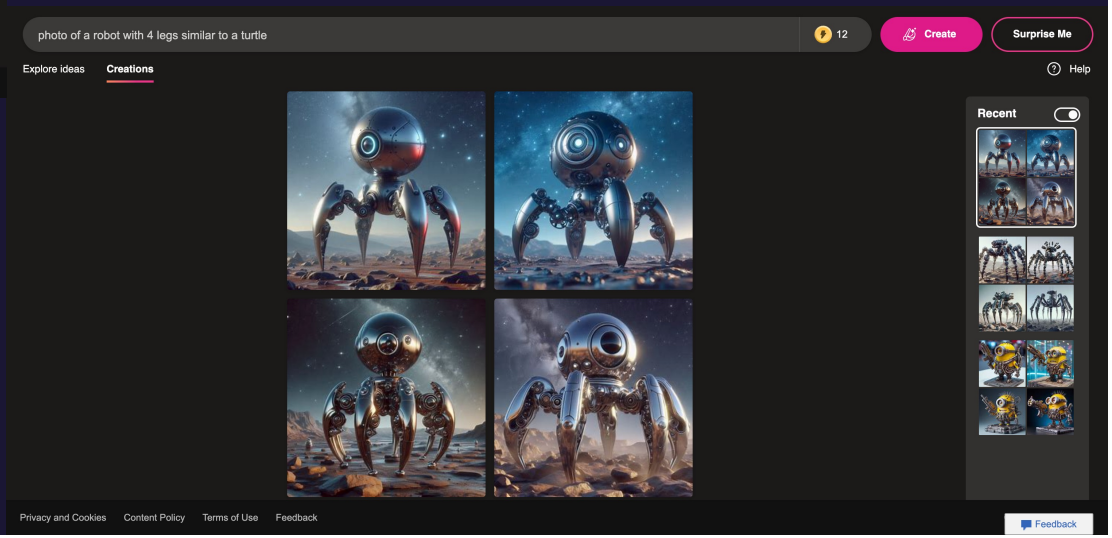
- This design is of a four-legged robot that is inspired by turtles' physical characteristics.





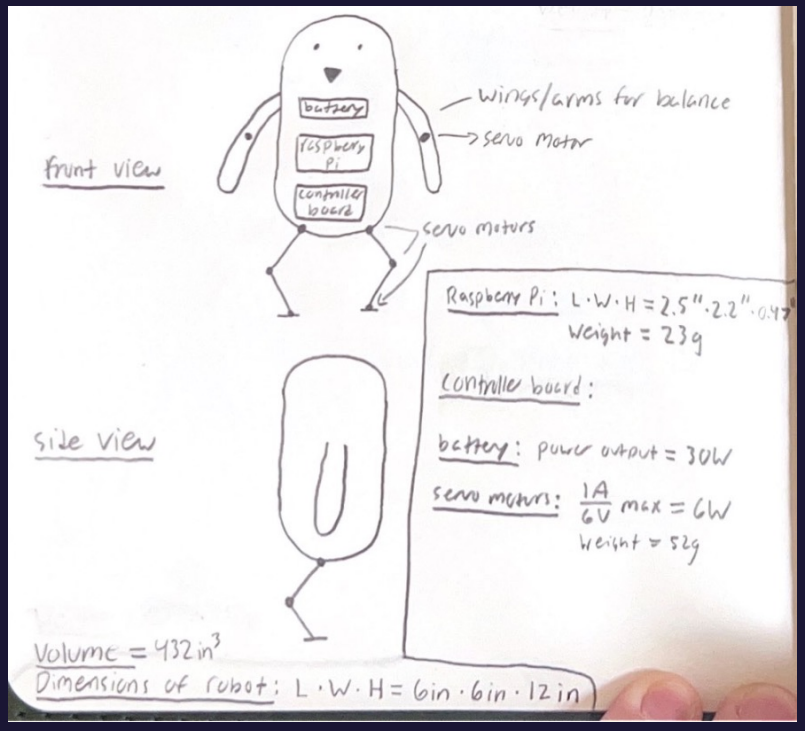
Concept 2 – Turtle/Quadruped design using AI

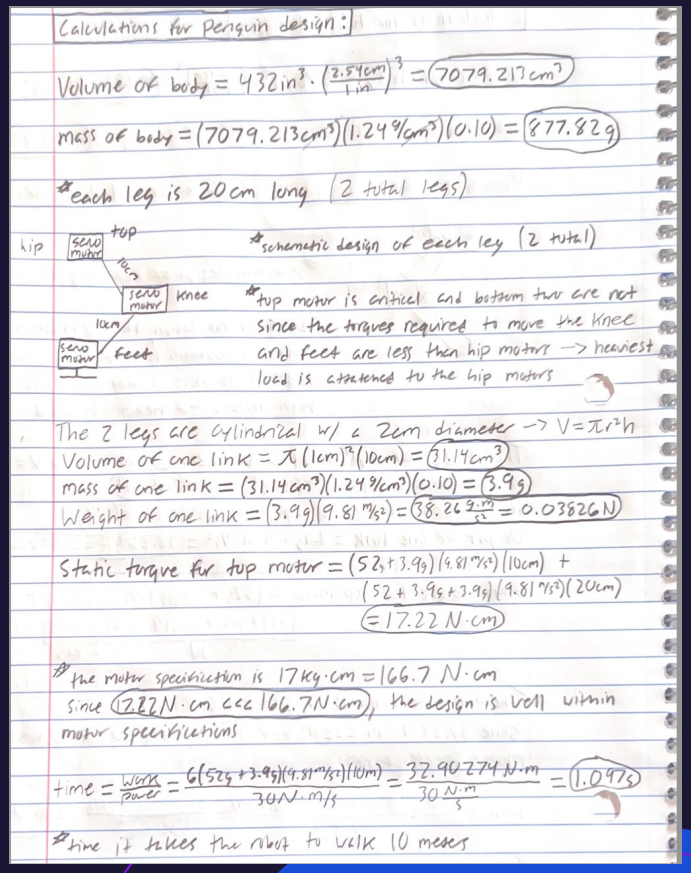




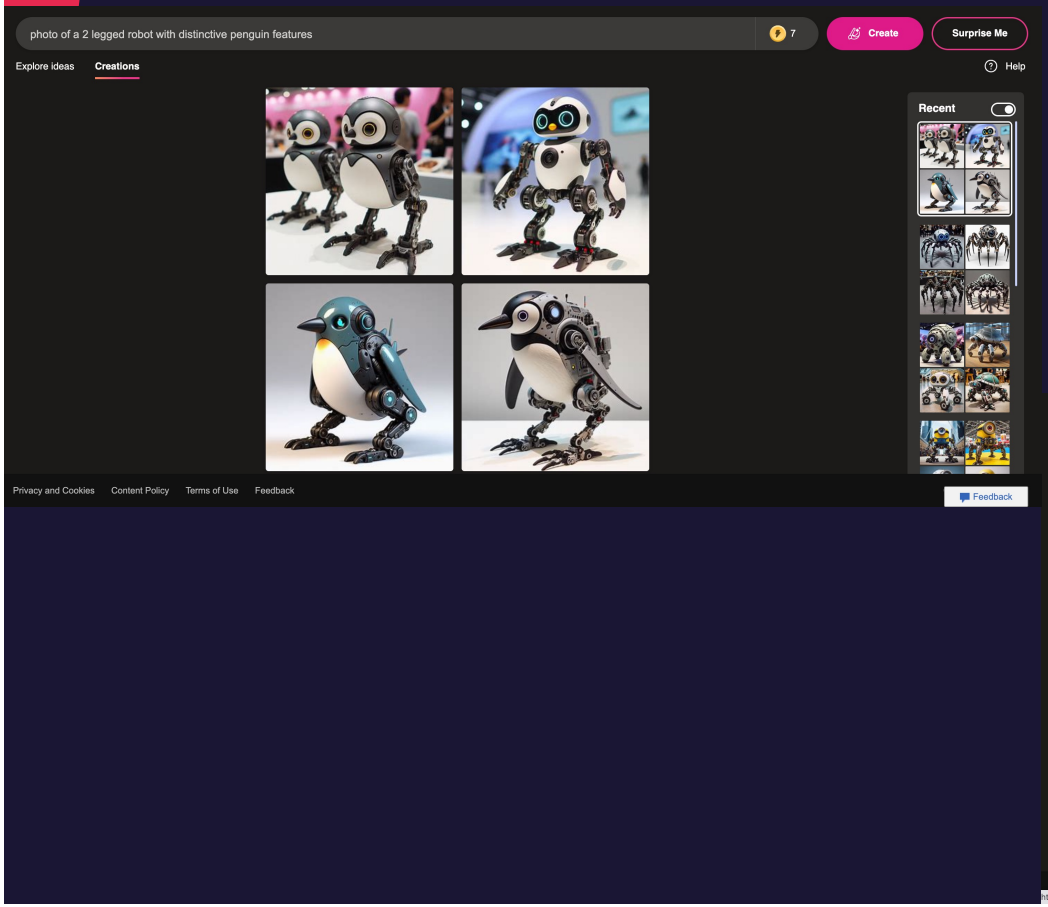
Concept 3 – Penguin/Bipedal Robot design

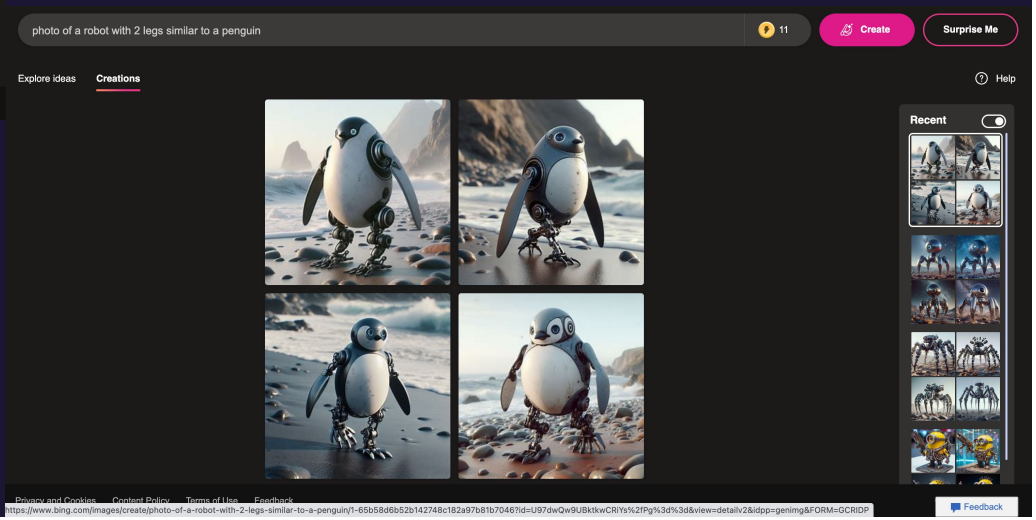
- This design is of a two-legged robot that is inspired by penguins' physical characteristics.





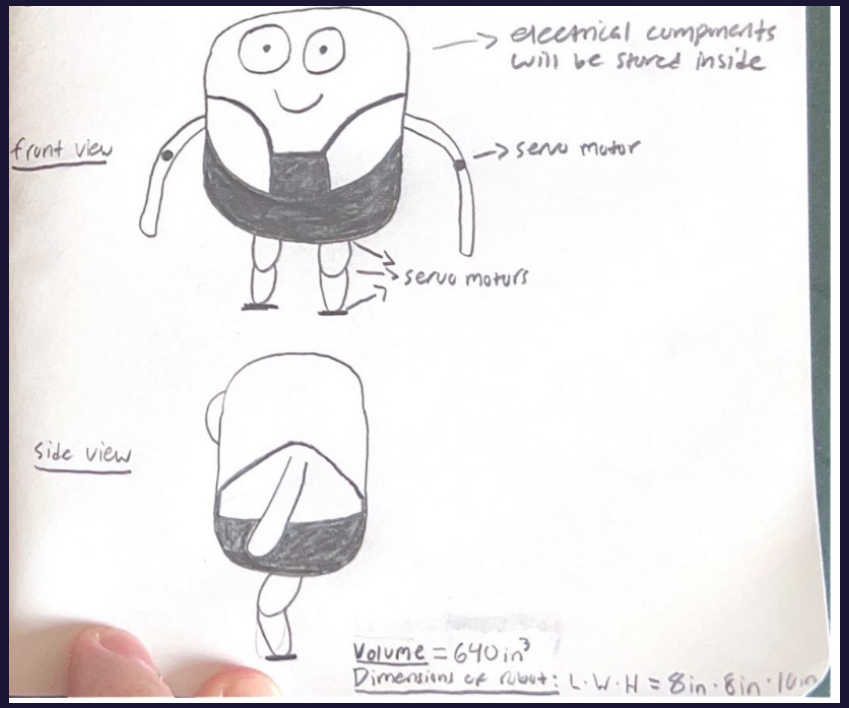
Concept 3 – Penguin/Bipedal Robot design using AI

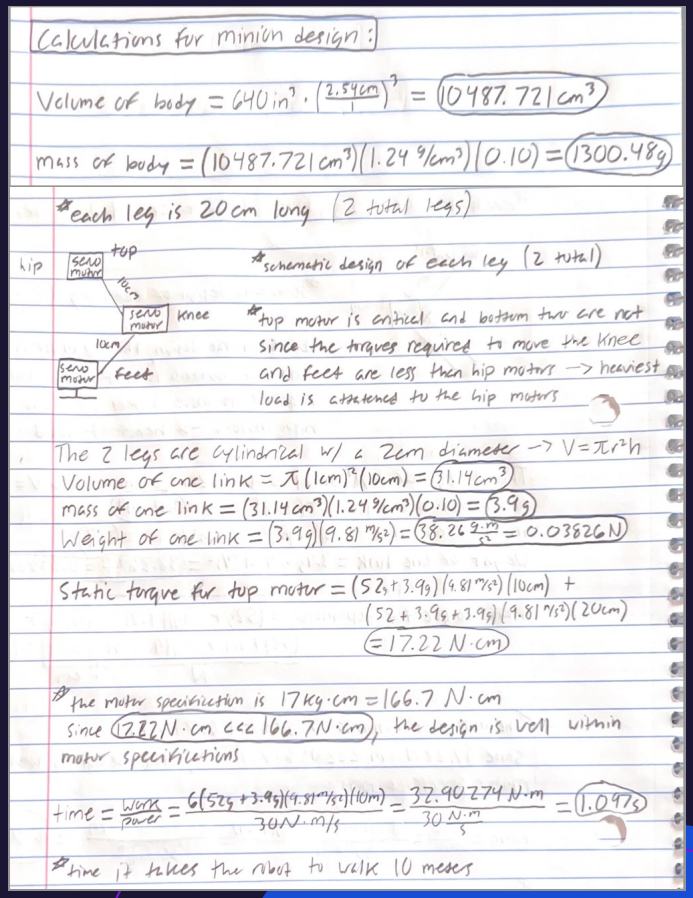




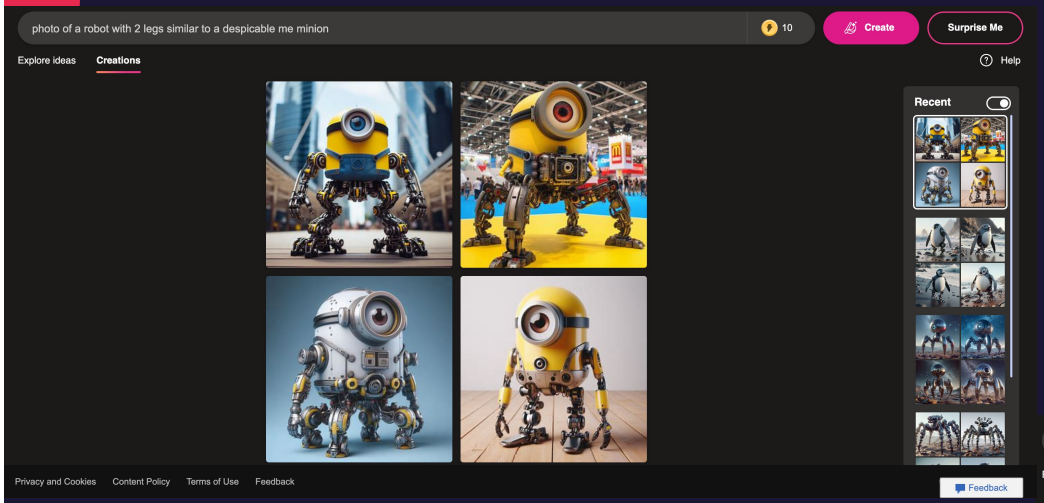
Concept 4 – Despicable Me Minion design

- This design is of a two-legged robot that is inspired by the Despicable Me minions' physical characteristics.

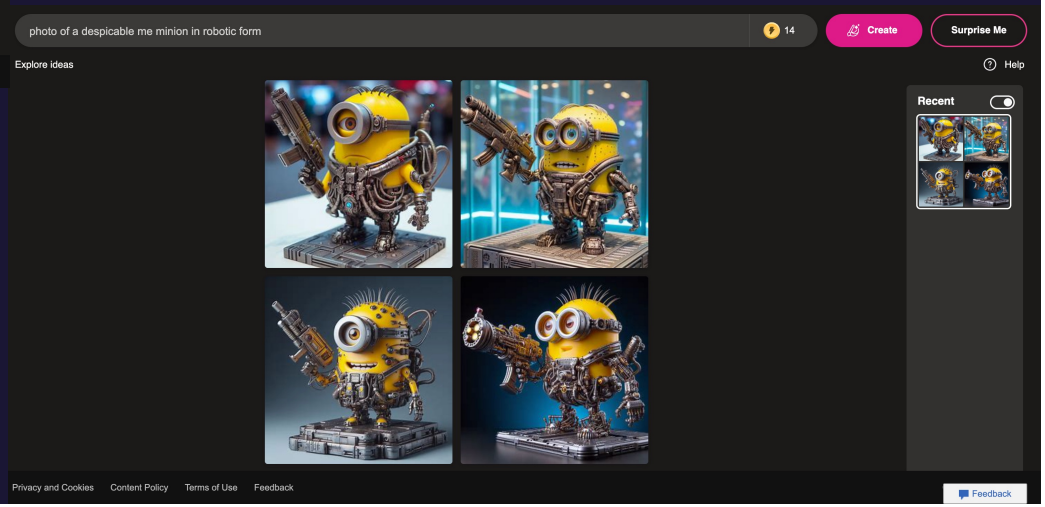




Concept 4 – Despicable Me Minion design using AI



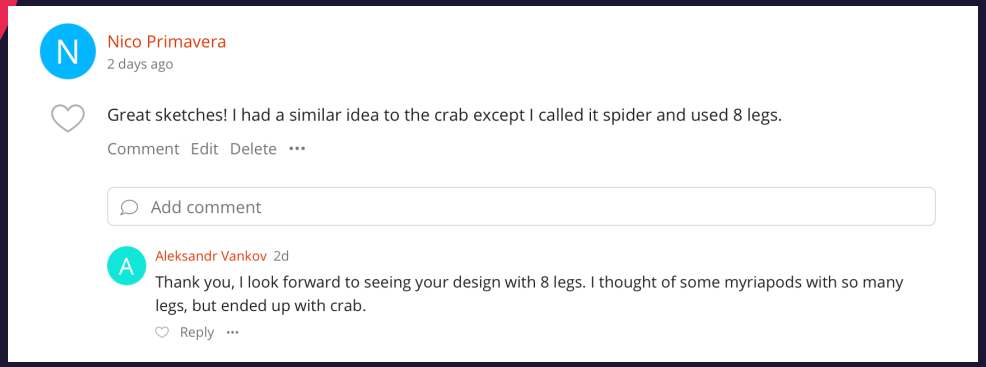
- The minion in the bottom right corner is exactly what I look to do.

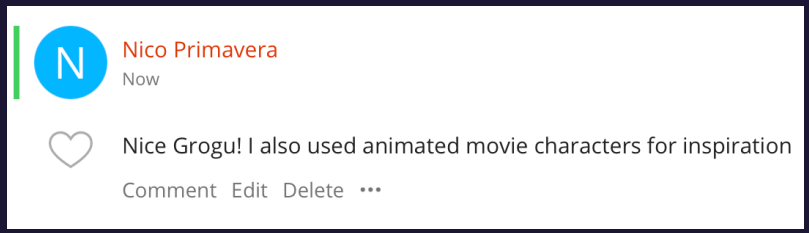


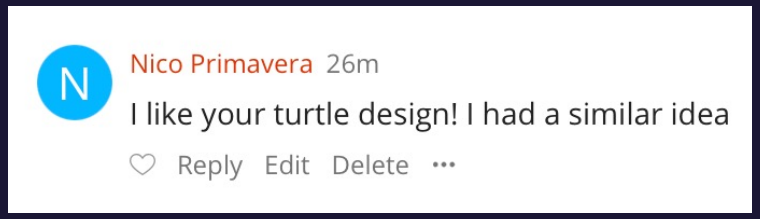
Rubric Checklist

- At the end of the assignment, list all the rubrics and points you believe you should receive, along with page numbers to support your claim.
- 5 Points Title slide complete (slide 1)
- 5 Points overall aesthetics, layout and formatting of the slides
- 5 Points posting a sketch of your robot on the discussion board at least 24h in advance of the deadline (slide 12)
- 5 Points Comment (constructively) on at least three other's postings (slide 11)
- 5 Points showing three robot designs from an AI-generator (e.g. StableDiffusion) along with the prompt (slides 3, 5, 7, 9)
- 5 Points 3D sketch, with key dimensions and labels (slides 2, 4, 6, 8)
- 5 Points shading and shadows (slides 4 and 8)
- 5 Points weight estimate, gait and stability analysis (slides 2, 4, 6, 8)
- 5 Points power estimates (including estimated run time) (slides 2, 4, 6, 8)
- 5 Points including Computer, controller, battery labels (slides 2, 4, 6, 8)
- 5 Points showing in multiple poses (slides 2, 4, 6, 8)
- 10 Points showing generative AI assistance (slides 3, 5, 7, 9)

Comment (constructively) on at least three other's postings







ED Discussion Board post