# **10 Questions**

1. Based on current score of accuracy, precision and F1-score, how confident are you in the model's ability to make accurate predictions?

ANS: Below are current model evaluation score

1. Accuracy: 0.5397902529302899
2. Precision: 0.26713634558451604
3. Recall: 0.26910204787599834
4. F1-score: 0.2639454386959716

Currently the accuracy is low and there seems to be more false positive and false negative. The model needs further improvement. I may need to add additional features.

1. What can you do to improve the model's accuracy?

ANS: There is a possibility to add more features. Also currently when the data is cleaned for the NA records half of the rows were deleted. Instead of removing the rows it may be beneficial to fill-up the NA records with mean/median.

1. What other algorithm can you test/experiment with?

ANS: The other algorithms I can test/try are SVM, Neural Networks

1. Currently, removing NA significantly reduces the data size; what else can you do to keep the data size?

ANS: Instead or removing NA rows, I can try replacing the data with mean or median data.

1. How do you plan to address the ethical considerations related to privacy and potential bias in the model's predictions, especially concerning gender?

ANS: it may be possible to encode the gender information to a completely different feature (or encrypt the data) to not identify the gender.

1. What are the challenges in deploying these models?

ANS: the challenges are regarding the deployment of the model. Selecting the average temperate in a room can be a challenge. People may change rooms making it difficult to achieve the average temperature.

1. How will the model's predictions be used in practice to optimize HVAC systems and improve energy efficiency?

ANS: based on outdoor temperature, weather, the number of people in building the temperature and flow can be adjusted to optimize the energy efficiencly.

1. What are the expected benefits of this project in terms of energy savings and improved occupant comfort?

ANS: The expected benefits are energy optimization, improving comfort level of occupants and achieving better efficiency.

1. How will the model be maintained and updated over time to ensure its continued effectiveness?

ANS: the data collection and individual preference to be measured along the time and model should be retrain based on the feedback received. Also continues online customer feedback device can be employed to get the required feedback

1. Is it possible to build individual comfort level HVAC systems?

ANS: Its difficult as its being a centralize systems, another option could be vents can be adjusted automatically based on location.