For the task 4 we had to classify if foods are tasting similar or not. The 10k images were provided in a triplet fashion, where the first image tasted more similar to the second than to the third. Our goal was now to classify test triplets, if they are correct in the order, which means that the first image tastes more similar to the second than third.

For this task we used a pretrained model. We got this model from Keras with a tensorflow backend for python. The model was the Xception which was trained on the ImageNet Challenge. We removed the last layer of the model and worked with the features coming out from the global averaging pooling layer just before the last layer. These features (one feature per image) had a length of 2048 and were then concatenated in such a way that they represented the order of the triplets. Additionally the order of the triplets was inverted and so were the feature vectors as well, this was done to generate negative classification training data.

These concatenated triplet features were then fed into a RandomForestClassifier from the sklearn library for python. The classifier returned then the classification of each triplet. The best parameters were again determined by a cross validation (this yielded n\_estimators=300) (done in a separate file and not contained in the submitted python file.)