CGAS ASSIGNMENT 1

SUBMITTED BY : ANJALI

MT20082

Ans1 a)

Recipe 1 - Veg Pulao

INGREDIENTS SECTION

2 tbsp ghee / clarified butter
1 inch cinnamon
3 pod cardamom
4 cloves
1 bay leaf
½ tsp fennel / saunf
1 tsp cumin / jeera
1 onion (finely chopped)
1 tsp ginger paste
1 tsp garlic paste
1 chilli (slit)
½ tsp turmeric
1 tsp kashmiri red chilli powder
1 tsp garam masala
1 tsp kasuri methi
1 tomato (finely chopped)
1 carrot (chopped)
½ potato (cubed)
3 tbsp peas / matar
1 cup basmati rice (soaked 20 minutes)
2 tbsp coriander (finely chopped)
2 cup water

1 tsp salt

COOKING INSTRUCTIONS
1. firstly, in a large kadai heat 2 tbsp ghee and saute 1 inch cinnamon, 3 pod cardamom, 4 cloves, 1 bay leaf, ½ tsp fennel and 1 tsp cumin. saute until spices turn aromatic.
2. now add 1 onion, 1 tsp ginger paste, 1 tsp garlic paste and 1 chilli.
3. saute well until onions change colour slightly.
4. keeping the flame on low, add ½ tsp turmeric, 1 tsp chilli powder, 1 tsp garam masala, 1 tsp kasuri methi.
5. saute on low flame until spices turn aromatic.
6. further, add 1 tomato and saute until tomatoes turn soft and mushy.
7. now add 1 carrot, ½ potato and 3 tbsp peas.
8. saute for a minute or until vegetables are coated well with the masala.
9. add in 1 cup basmati rice, 2 tbsp coriander and saute gently for a minute. make sure to soak basmati rice for 20 minutes.
10. pour 2 cup water and 1 tsp salt. mix well.
11. cover and simmer for 20 minutes or until rice gets cooked completely. you can alternatively, pressure cook for 2 minutes on medium flame.

Recipe 2 - Rava Idli

INGREDIENTS
1 cup urad dal
2 cup idli rava / rice rava / cream of rice
1 tsp salt
oil to grease

COOKING INSTRUCTIONS
1. firstly, in a large bowl soak 1 cup urad dal for 4 hours.
2. drain off the water and transfer to blender or grinder.
3. blend to smooth and fluffy batter adding water as required.
4. transfer the batter to a large bowl. keep aside.
5. now in another bowl take 2 cup idli rava.

6. rinse the idli rava with enough water and drain off the water.
7. repeat this for 2 or 3 times or till water runs clean.
8. squeeze off water from idli rava and add to urad dal batter.
9. mix well making sure rava and urad dal are combined well.
10. now cover and rest in warm place for 8-10 hours or till the batter ferments and doubles.
11. after 8 hours, batter doubles indicating well fermented with air pockets present.
12. add 1 tsp salt to the batter and mix gently without disturbing the air pockets.
13. scoop the batter into idli plate greased with oil.
14. place in steamer and steam for 10 minutes on medium flame or till a toothpick inserted comes out clean.

Recipe 3 - Poha

INGREDIENTS SECTION

1 onion (finely chopped)
¾ cup coconut (grated)
1 tsp lemon juice
1 tsp sugar
½ tsp salt
2½ cup poha / aval / beaten rice (thin)
2 tbsp oil
2 tbsp peanut
1 tsp mustard
½ tsp cumin / jeera
pinch hing / asafoetida
2 chilli (finely chopped)
few curry leaves
½ tsp turmeric
2 tbsp coriander (finely chopped)

COOKING INSTRUCTIONS

1. firstly, in a large bowl take 1 onion, ¾ cup coconut, 1 tsp lemon juice, 1 tsp sugar and ½ tsp salt.
2. mix well making sure everything is well combined.
3. now add 2½ cup poha and mix well.
4. rest for 10 minutes making sure poha absorbs moisture and turns soft.
5. meanwhile, in a pan heat 2 tbsp oil and roast 2 tbsp peanut. roast until peanuts turn crunchy.
6. splutter 1 tsp mustard, ½ tsp cumin, pinch hing, 2 chilli, few curry leaves and ½ tsp turmeric.
7. pour the tempering over poha and mix well.
8. also, add 2 tbsp coriander and mix well.

Recipe 4 - Pasta

INGREDIENTS SECTION
6 cup water
2 cup penne pasta
½ tsp salt
1 cup cold water (to rinse)
3 tsp oil
2 clove garlic (finely chopped)
½ onion (finely chopped)
½ carrot (finely chopped)
2 tbsp sweet corn
¼ capsicum (finely chopped)
½ tsp pepper (crushed)
1 tsp mixed herbs
½ tsp chilli flakes
½ tsp salt
¼ cup mayonnaise (eggless)

COOKING INSTRUCTIONS
1. firstly, in a large vessel boil 6 cup water along with ½ tsp salt.
2. now add 2 cup penne pasta and stir well.
3. boil for 10 minutes or until the pasta turns al dente. refer package instructions for cooking time.
4. drain off the cooked pasta and pour 1 cup cold water to stop the cooking process.
5. now in a large kadai heat 3 tsp oil and saute 2 clove garlic.
6. also saute ½ onion until they shrink slightly.
7. further add ½ carrot, 2 tbsp sweet corn and ¼ capsicum.
8. stir fry for 2 minutes without over cooking vegetables.
9. now add ½ tsp pepper, 1 tsp mixed herbs, ½ tsp chilli flakes and ½ tsp salt. give a good mix.
10. additionally, add ½ cup water leftover pasta water.
11. also add ¼ cup eggless mayonnaise. add more if you are looking for more creamy pasta.
12. now stir and combine keeping the flame on low. do not get sauce to boil.
13. furthermore add boiled pasta and mix well coating sauce uniformly.
14. finally, enjoy mayo pasta / mayonnaise pasta topped with cheese and chilli flakes.

Recipe 5 - Palak Paratha

INGREDIENTS SECTION
1 bunch palak leaves / spinach
3 cups water
1 inch ginger
1 green chilli
2 cup wheat flour
½ tsp ajwain / carom seeds
salt to taste
2 tsp oil
water as required (to knead dough)

½ cup wheat flour (to dust)

oil / ghee / for roasting

COOKING INSTRUCTIONS

1. firstly, prepare a dough with palak puree.
2. further pinch a medium sized ball dough, roll and flatten it.
3. also dust with some wheat flour.
4. and roll it in a thin circle like chapathi or paratha.
5. now on a hot tawa place the rolled paratha and cook for a minute.
6. furthermore, when the base is partly cooked, flip and cook.
7. also brush oil / ghee and press slightly.

Ans1 b)

Recipe 1	ghee
Recipe 1	cinnamon
Recipe 1	cardamom
Recipe 1	cloves
Recipe 1	bay leaf
Recipe 1	fennel
Recipe 1	cumin
Recipe 1	onion
Recipe 1	ginger paste
Recipe 1	garlic paste
Recipe 1	chilli
Recipe 1	turmeric
Recipe 1	kashmiri red chilli powder
Recipe 1	garam masala

Recipe 1	kasuri methi
Recipe 1	tomato
Recipe 1	carrot
Recipe 1	potato
Recipe 1	peas
Recipe 1	basmati rice
Recipe 1	coriander
Recipe 1	water
Recipe 1	salt

Recipe 2	urad dal
Recipe 2	idli rava
Recipe 2	salt
Recipe 2	oil to grease

Recipe 3	onion
Recipe 3	coconut
Recipe 3	lemon juice
Recipe 3	sugar
Recipe 3	salt
Recipe 3	poha
Recipe 3	oil
Recipe 3	peanut

Recipe 3	mustard
Recipe 3	cumin
Recipe 3	asafoetida
Recipe 3	chilli
Recipe 3	curry leaves
Recipe 3	turmeric
Recipe 3	coriander

Recipe 4	water
Recipe 4	penne pasta
Recipe 4	salt
Recipe 4	cold water
Recipe 4	oil
Recipe 4	clove garlic
Recipe 4	onion
Recipe 4	carrot
Recipe 4	sweet corn
Recipe 4	capsicum
Recipe 4	pepper
Recipe 4	mixed herbs
Recipe 4	chilli flakes
Recipe 4	salt
Recipe 4	mayonnaise

Recipe 5	spinach
Recipe 5	water
Recipe 5	ginger
Recipe 5	green chilli
Recipe 5	wheat flour
Recipe 5	carom seeds
Recipe 5	salt
Recipe 5	oil
Recipe 5	water
Recipe 5	wheat flour
Recipe 5	ghee

Ans 1 c)

The aspects of the recipes that are being lost in the process of coarse-graining the recipe data:

1. The measurements are not specified which should be mentioned precisely or according to some standards.
2. The cooking procedure is not clear from the coarse graining of the data.
3. The utensils used while preparing a dish are different and their shape and size is not mentioned.
4. Also specific cooking order is not mentioned in the above representation.
5. The time required to cook the recipes is not mentioned.
6. There is no information regarding the shrinking of some ingredients after cooking and how much would each serving be.
7. The state of ingredients is not mentioned in the two column representation. Thus this information is lost too while preparing the recipe data.

Ans 1 d)

The ways one can possibly mitigate this to extract the most details from the recipes are :
1. We can add a separate column specifying which ingredient should be present in which state.
2. Also, we can specify the quantity of ingredients in some standard units like grams or ounces.
3. The size, shape and the material of the utensil required can also be added
4. The time required to get the recipe ready should also be mentioned.
5. The heating or freezing temperatures must be specified at each step of the recipe, which can be added in the instructions.
6. The procedure and cooking order is not specified by the coarse graining method which can result in the lost essence of the recipe.

Ans 2 d)
The cumulative distribution of recipe size graph shows that all the recipes in the dataset use 1 or more than 1 ingredient. All of them require atleast 1 ingredient. There is a drastic fall in the graph as the recipe size increases. This shows that there are more than half recipes that use 20 or less than 20 ingredients. There are very few recipes that have size greater than 20.

Ans 3 a)
The frequency-rank distribution graph for all the recipes follows **power law**. The graph is very different from an exponential or a gaussian distribution function. The most common ingredients among the recipes lie towards the left side of the graph and the least used ingredients lie towards the right side of the graph. Eg. salt has the maximum frequency of being used.

Ans 3 d)
1. The cuisines around the world also follow the same pattern as the previous graph where all of them were combined which is quite interesting. The cuisine wise statistics are consistent with the power law.
2. In this graph as well we can find the most popular ingredients towards left and the least popular ingredients towards right. Eg. Salt is the most popular ingredient in mostly all cuisines which is the leftmost top point in the graph.
3. The graph almost represents a straight line except in the portion of very high rank ingredients and very low rank ingredients.
4. The reason for some ingredients being very popular is that they go well with most of the other ingredients.
5. As the rank increases the frequency decreases and as the rank decreases the frequency increases.
6. It can be said that some ingredients might be less popular because of their high cost where as more popular ingredients have moderate to low cost.
7. Another reason for such pattern can be the availability of some ingredients that are limited to very few geographic locations and also their seasonal availability.