

# Project : Building a Recipe Generator

## Objective:

Create a simple prompt that generates cooking recipes based on given ingredients. This project helps students understand how to structure prompts to produce creative and practical outputs.

## Expected Outcome:

A collection of prompts that reliably generate cooking recipes based on specific ingredients, showcasing the students' ability to guide the AI to desired output types

## Step 1: Setup the Project

If you're not writing code, you can **just use ChatGPT** for now:

- Open [ChatGPT](#)
- Type:  
    **"Generate a recipe using potatoes and spinach."**

## Output :

- **Aloo Palak (Potato & Spinach Curry)**
- **Serves: 2-3**
- **Prep Time: 15 minutes**
- **Cook Time: 25 minutes**
- **Ingredients:**
  - 2 medium potatoes (peeled and diced)
  - 2 cups fresh spinach (washed and chopped)
  - 1 medium onion (finely chopped)
  - 1 tomato (chopped)
  - 2 garlic cloves (minced)
  - 1-inch piece of ginger (grated)
  - 1 green chili (optional, finely chopped)
  - 1 tsp cumin seeds

- ½ tsp turmeric powder
- 1 tsp coriander powder
- ½ tsp garam masala
- Salt to taste
- 2 tbsp oil
- ½ cup water

➤ **Instructions:**

- **Boil or sauté the potatoes:**

Option 1: Boil the diced potatoes until just tender.

Option 2: Heat 1 tbsp oil in a pan and sauté the potatoes until golden and cooked through. Set aside.

- **Cook the base:**

- ✓ Heat the remaining oil in a pan.
- ✓ Add cumin seeds and let them splutter.
- ✓ Add chopped onions and sauté until golden.
- ✓ Stir in garlic, ginger, and green chili. Sauté for 1-2 minutes.

- **Add spices and tomato:**

- ✓ Add turmeric, coriander powder, and salt. Mix well.
- ✓ Add chopped tomatoes and cook until they soften and oil separates.

- **Combine spinach and potatoes:**

- ✓ Add chopped spinach. Stir and cook for 2-3 minutes until wilted.
- ✓ Add cooked potatoes and ½ cup water. Cover and simmer for 7-10 minutes.

- **Finish:**

- ✓ Stir in garam masala.
- ✓ Cook uncovered for 2 more minutes to adjust consistency.

- **Serve with:**

- ✓ Roti, paratha, or steamed rice
- ✓ A dollop of yogurt or pickle on the side

## **Step 2: Choose a Task**

Let's say:

**“Generate a healthy breakfast recipe using oats, banana, and honey.”**

### **1. Zero-Shot Prompting**

You give only the task, no examples.

- **Prompt:**

*"Create a healthy breakfast recipe using oats, banana, and honey."*

***Output: Banana Oatmeal with Honey***

- **Serves: 1**

- **Prep Time: 5 minutes**

- **Cook Time: 5-7 minutes**

- **Ingredients:**

- ✓ ½ cup rolled oats
- ✓ 1 cup milk (or any plant-based milk like almond/oat/soy)
- ✓ 1 ripe banana (sliced)
- ✓ 1 tsp honey (or to taste)
- ✓ ½ tsp cinnamon (optional)
- ✓ A pinch of salt
- ✓ Optional toppings: chopped nuts, chia seeds, flaxseeds, or a few berries

- **Instructions:**

- I. Cook the oats:**

- ✓ In a saucepan, combine oats, milk, and a pinch of salt.
    - ✓ Cook on medium heat, stirring occasionally, for 5-7 minutes until creamy and soft.

- II. Add banana:**

- ✓ Mash half of the banana and stir it into the oats while cooking (for natural sweetness and creaminess).
    - ✓ Add cinnamon if using.

- III. Finish and serve:**

- ✓ Pour the cooked oatmeal into a bowl.
    - ✓ Top with the remaining banana slices, drizzle with honey, and add any extra toppings you like.

- **Health Benefits:**

- ✓ **Oats:** High in fiber, good for digestion and heart health
  - ✓ **Banana:** Provides energy and potassium
  - ✓ **Honey:** Natural sweetener with antioxidants

## **2. Few-Shot Prompting**

You give **examples first**, then ask the AI to generate a new one.

***Prompt :***

Recipe 1: Ingredients: Egg, tomato, bread

Recipe: Scramble the egg, toast the bread, and add sliced tomato for a quick sandwich.

Recipe 2: Ingredients: Rice, lentils, turmeric

Recipe: Cook rice and lentils together with turmeric for a simple khichdi.

Now, create a healthy breakfast recipe using oats, banana, and honey.

- **Output :**

**Recipe 3:**

**Ingredients:** Oats, banana, honey

**Recipe:** Mix oats with warm milk or water, stir in mashed banana for natural sweetness, and drizzle with honey for a quick and healthy breakfast bowl.

### 3.Chain-of-Thought Prompting

**Prompt:**

“Let’s think step by step. First list the ingredients. Then explain the preparation steps in detail. Use oats, banana, and honey to create a healthy breakfast recipe.”

**Output :**

- **Ingredients:**

- ✓ ½ cup rolled oats
- ✓ 1 cup milk or water (or any plant-based milk like almond or oat milk)
- ✓ 1 ripe banana
- ✓ 1 tsp honey (or to taste)
- ✓ Optional: ¼ tsp cinnamon, a pinch of salt, chopped nuts or seeds for topping

- **Preparation Steps:**

- ✓ **Cook the Oats:**In a small saucepan, add ½ cup oats and 1 cup milk (or water).Add a pinch of salt if desired.Cook over medium heat for about 5–7 minutes, stirring occasionally, until the oats are soft and creamy.
- ✓ **Prepare the Banana:**While the oats are cooking, peel and mash half of the banana with a fork.Slice the other half for topping.

- ✓ **Combine Banana and Oats:** Once the oats are cooked, stir in the mashed banana. This naturally sweetens the oatmeal without added sugar. Add cinnamon if using and stir well.
- ✓ **Serve and Top:** Pour the oatmeal into a bowl. Top with the banana slices. Drizzle 1 tsp of honey over the top for added sweetness. Add optional toppings like chopped almonds, walnuts, or chia seeds for extra crunch and nutrition.

### **Result:**

A warm, creamy, and naturally sweet **banana oat porridge** that's filling, nutritious, and perfect for a healthy start to your day.

### **Analysis**

**Observations :** The step-by-step method gave the most useful and detailed answer, clearly listing ingredients and explaining the preparation in an easy-to-follow way. The first recipe (short format) was the quickest but missed cooking instructions and lacked detail. The second (khichdi style) was simple but less creative. The step-by-step format was easier to control, allowed for optional add-ons, and was the most flexible and health-conscious.