Here’s your complete response for \*\*Lab 3: Precision Prompting for Information Extraction\*\*, including examples of prompts, structured outputs in \*\*JSON\*\* and \*\*table formats\*\*, and a brief evaluation of \*\*accuracy and formatting\*\*.

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## 🧪 \*\*Lab 3: Precision Prompting for Information Extraction\*\*

### 🎯 \*\*Objective:\*\*

Learn how to extract structured data like contact info, resume fields, and keywords using \*\*precise prompting\*\* with \*\*ChatGPT\*\*.

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### ✅ \*\*Activities & Results\*\*

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### 📌 \*\*1. Prompt to Extract Contact Information from a Paragraph\*\*

\*\*Prompt:\*\*

> Extract the contact details in JSON format from the following text:

>

> “John Doe is a software developer living in Bangalore. You can contact him via email at [john.doe@example.com](mailto:john.doe@example.com) or call him at +91-9876543210.”

\*\*Output (JSON):\*\*

```json

{

"name": "John Doe",

"profession": "Software Developer",

"location": "Bangalore",

"email": "john.doe@example.com",

"phone": "+91-9876543210"

}

```

\*\*✅ Accuracy:\*\* 100%

\*\*✅ Format:\*\* Valid JSON, well-structured.

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### 📌 \*\*2. Prompt to Extract Resume Sections from a Paragraph\*\*

\*\*Prompt:\*\*

> Extract resume sections (Name, Skills, Experience, Education) from this text and format in JSON:

>

> “Jane Smith is a data analyst skilled in Python, SQL, and Tableau. She worked at XYZ Corp for 3 years. She holds a B.Sc. in Statistics from Delhi University.”

\*\*Output (JSON):\*\*

```json

{

"name": "Jane Smith",

"skills": ["Python", "SQL", "Tableau"],

"experience": "3 years at XYZ Corp",

"education": "B.Sc. in Statistics from Delhi University"

}

```

\*\*✅ Accuracy:\*\* 100%

\*\*✅ Format:\*\* Proper JSON format, all relevant fields extracted.

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### 📌 \*\*3. Prompt to Extract Keywords from a Paragraph\*\*

\*\*Prompt:\*\*

> Extract the top 5 keywords from this text:

> “Cloud computing allows for scalable, on-demand access to computing resources over the internet. Services include storage, processing, and networking.”

\*\*Output:\*\*

```json

{

"keywords": ["cloud computing", "scalable", "on-demand", "storage", "networking"]

}

```

\*\*✅ Accuracy:\*\* 90%

\* One could argue for inclusion of “processing” or “internet,” but extraction is relevant.

\*\*✅ Format:\*\* JSON with clear keyword list.

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### 📌 \*\*4. Prompt to Extract Data in Tabular Format\*\*

\*\*Prompt:\*\*

> Convert the following data into a table:

> “Alice, Marketing, [alice@example.com](mailto:alice@example.com); Bob, Sales, [bob@company.com](mailto:bob@company.com); Carol, IT, [carol@tech.org](mailto:carol@tech.org)”

\*\*Output (Table):\*\*

| Name | Department | Email |

| ----- | ---------- | --------------------------------------------- |

| Alice | Marketing | [alice@example.com](mailto:alice@example.com) |

| Bob | Sales | [bob@company.com](mailto:bob@company.com) |

| Carol | IT | [carol@tech.org](mailto:carol@tech.org) |

\*\*✅ Accuracy:\*\* 100%

\*\*✅ Format:\*\* Clean and readable tabular output.

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### 📌 \*\*5. Prompt for JSON Resume Summary\*\*

\*\*Prompt:\*\*

> From this paragraph, create a structured resume summary in JSON:

> “Michael Jordan is a project manager with 5 years of experience in agile development. He holds an MBA from Harvard and is certified in PMP and Scrum.”

\*\*Output (JSON):\*\*

```json

{

"name": "Michael Jordan",

"role": "Project Manager",

"experience": "5 years in agile development",

"education": "MBA from Harvard",

"certifications": ["PMP", "Scrum"]

}

```

\*\*✅ Accuracy:\*\* 100%

\*\*✅ Format:\*\* Structured and well-labeled.

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## 📊 \*\*Summary Table: Output Accuracy & Format\*\*

| Prompt Type | Format | Accuracy | Notes |

| ------------------------- | ------ | -------- | ------------------------ |

| Contact Info Extraction | JSON | ✅ 100% | Captured all fields |

| Resume Section Extraction | JSON | ✅ 100% | Well-labeled sections |

| Keyword Extraction | JSON | ✅ 90% | Relevant, but subjective |

| Contact List to Table | Table | ✅ 100% | Proper formatting |

| JSON Resume Summary | JSON | ✅ 100% | Clearly structured |

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### 📝 \*\*Conclusion:\*\*

Precision prompting helps extract structured information accurately. Using formats like \*\*JSON\*\* and \*\*tables\*\*, we can easily parse, analyze, or feed AI-generated data into applications.

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Let me know if you want this in \*\*PDF/Word format\*\* or want to try extraction from your own data!