

**Automation and Integration Engineer Technical Exam**

“Process Automation Feasibility and Prioritization Tool”

**Situation:**

Company XYZ has a lot of processes that needs to automate. And they need to have a tool to identify which of the processes are suitable for automation. If proven that It can be automated, it should be prioritized properly.

**Task:**

Your task is to build a web application tool for Company XYZ to determine and recommend which process can be automated by:

1. Implementing score-based process on key factors such as complexity, frequency, manual error rate, and cost savings and etc.

|  |  |  |
| --- | --- | --- |
| Factor | Description | Score Range |
| Repetitiveness | How frequently is the process executed? (e.g., daily tasks are more automatable than rare tasks) | **1-5** |
| Rule-Based | Is the process deterministic, following clear rules, or does it require human judgment? | **1-5** |
| Complexity | Is the process simple or does it involve too many exceptions and variations? (Lower complexity = more automatable) | **1-5** |
| Volume | How many transactions or instances occur per day/week? (Higher volume = more automation potential) | **1-5** |
| Standardization | Are inputs/outputs standardized, or do they vary a lot? (Standardized = easier to automate) | **1-5** |
| Current Errors | Does the process have a high error rate when done manually? (Higher errors = more need for automation) | **1-5** |

**Note:** Add portion to input remarks for justification.

1. Classifying processes as:

|  |  |  |
| --- | --- | --- |
| Score | Classification | Recommendation |
| 0 - 10 | Not Suitable for Automation | Process is too complex, infrequent, or rule-ambiguous. Keep it manual. |
| 11 - 20 | Possibly Automatable | Process has some potential for automation, but may require human intervention. Consider semi-automation. |
| 21 - 30 | Highly Automatable | Process is repetitive, rule-based, and structured—ideal for full automation! |

1. If qualified for automation, prioritized by implementing score-based rule for making decision

e.g.

Process Name: **Monthly invoice processing task**:

|  |  |  |
| --- | --- | --- |
| Factor | Score | Remarks / Justification |
| Repetitiveness | 4 |  |
| Rule-Based | 5 |  |
| Complexity | 3 |  |
| Volume | 4 |  |
| Standardization | 5 |  |
| Current Errors | 4 |  |
| Total Score | **25/30** ✅ **Highly Automatable** | |

Since the score is **above 20**, this process is an **ideal candidate for automation**.

1. Generate a detailed report outlining feasibility and prioritization. It should have a report page and ability to download a report.

See sample report below. Feel free to add details that you may seem important to be included in the report.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Process Name** | **Repetitiveness** | **Rule-Based** | **Complexity** | **Volume** | **Standardization** | **Error Rate** | **Total Score** | **Automation Suitability** | **Priority** |
| 1 | **Invoice Processing** | 5 | 5 | 3 | 4 | 5 | 4 | **26** | **Highly Automatable** | **High** |
| 2 | **Employee Onboarding** | 3 | 4 | 2 | 3 | 3 | 2 | **17** | **Possibly Automatable** | **Medium** |
| 3 | **Customer Support Ticket Handling** | 5 | 3 | 2 | 5 | 4 | 3 | **22** | **Highly Automatable** | **High** |
| 4 | **Executive Decision Review** | 1 | 2 | 5 | 1 | 2 | 1 | **9** | **Not Suitable for Automation** | **Low** |
| 5 | **Order Fulfillment Tracking** | 4 | 5 | 3 | 4 | 5 | 4 | **25** | **Highly Automatable** | **High** |

|  |
| --- |
| **High Priority (Score 21-30) – Automate Immediately** |
| Invoice Processing (26) |
| Customer Support Ticket Handling (22) |
| Order Fulfillment Tracking (25) |
| **Next Steps:** Implement full automation for these processes ASAP. |
|  |
| **Medium Priority (Score 11-20) – Consider Partial Automation** |
| Employee Onboarding (17) |
| **Next Steps:** Some manual intervention is needed, consider **semi-automation**. |
|  |
| **Low Priority (Score 0-10) – Keep Manual** |
| Executive Decision Review (9) |
| **Next Steps:** This process requires human judgment and is **not suitable for automation**. |

\*\*\* Bonus points: If you can provide an AI generated conclusion like below.

**Conclusion:** Based on this assessment, **3 processes are highly automatable**, **1 is partially automatable**, and **1 should remain manual**. Prioritization should focus on high-impact areas to maximize efficiency and cost savings.

**Deliverables for the Candidate**

* **Repository & Documentation**

GitHub Repository – Maintain a GitHub repo and share it with us.

* **README File** – Must include:
* Setup instructions
* Tech stack used
* Explanation of implementation choices
* API endpoints & usage examples  
  Requirements File – Use requirements.txt for dependencies.  
  Deployment Instructions – Steps for local and production deployment. You can use AWS or GCP or any cloud platform you are comfortable with in making a deployment instruction.
* **Tech Stack**

Backend: Flask / Django / FastAPI (choose one)  
Frontend: Dash / React.js (choose one)  
Database: MySQL / PostgreSQL  
Authentication: User Authentication & Login Page (session-based or token-based)

* **Code Quality & Best Practices**

Separation of Concerns – Follow MVC or a structured design pattern.  
Logging & Error Handling – Implement structured logs and exception handling.  
CodeDocumentation – Docstrings and inline comments explaining logic where needed.

* **Optional but Preferred**

Video Walkthrough – A short video explaining the approach, code structure, and demo. Please store it in Google Drive or One Drive and please share the link with us.