

# STEPSTONE 2018

## Industry Defined Problems (IDP)

### Problem Statement - 1:

#### INTRODUCTION:



Industries run continuously 24/7 across the World. Specifically, Industries like Energy Generation sector develop enormous amount of heat daily and have a water cooling system for its maintenance. In water cooling system of an industry, raw water sometimes contains certain impurities. To remove these impurities, water is treated by certain chemicals. Also, there are several losses like evaporation loss, drift loss, etc during the cooling process. To compensate the amount of water, certain amount of water is added to the cooling tower which is known as make up water.

Now a day's government applied rules to Industries that they must pay some money to dispose excess water in environment.

#### STATEMENT:

***"Come up with an economical and feasible solution to help Industries in Implementing Modern cooling methods to reduce the water cooling system usage."***

## **Problem Statement - 2:**

### **INTRODUCTION:**



In a pesticide industry, the Air-drying unit is having high air pollution. Main problem in air pollution is that they are using mechanically aided scrubber. But efficiency of equipment used for pollution control is very low.

### **STATEMENT:**

*“Come up with alternatives for this to control and reduce air pollution in pesticide industries.”*

## **Problem Statement - 3:**

### **INTRODUCTION:**



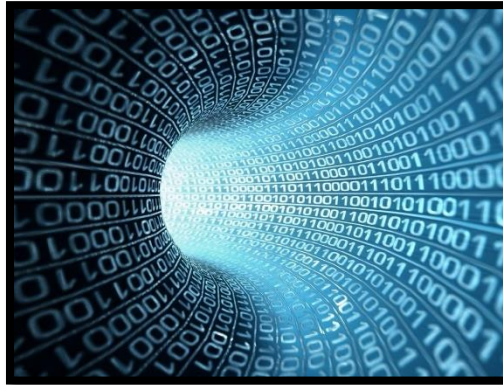
In personal computers usually, files get duplicated or get into Multiple copies. It may sometimes lead to slow down in system performance and reducing the storage space in the personal devices.

### **STATEMENT:**

*“Looking for an application/tool to identify and manage duplicate files in the system effectively.”*

### **Problem Statement - 4:**

#### **INTRODUCTION:**



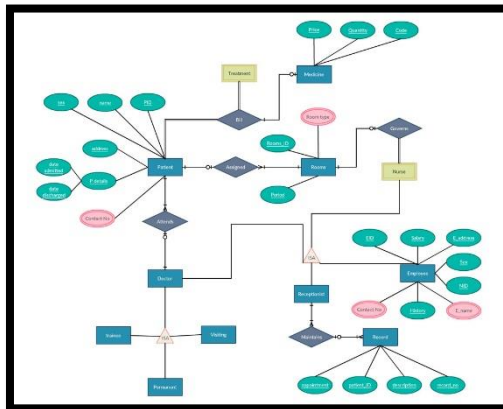
Implementation of a Knowledge Base is extremely useful in many educational Institutions. Since, many developers get their opportunity to explore the works of recent projects.

#### **STATEMENT:**

*“Figure out the best design for such a Knowledge Base that can be used by all developers involved in projects.”*

### **Problem Statement - 5:**

#### **INTRODUCTION:**



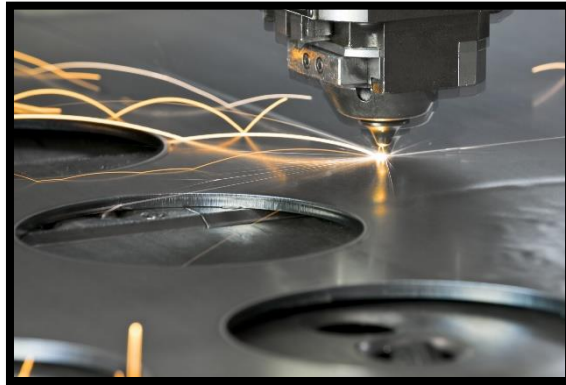
An Entity - Relationship diagram (ERD) shows the relationships of entity sets stored in a database. An entity in this context is a component of data. In other words, ER diagrams illustrate the logical structure of databases. It is an effective way to express Database operations yet faces some problems.

#### **STATEMENT:**

*“Figure out the possibility to identifying Bugs in ER diagram.”*

## **Problem Statement - 6:**

### **INTRODUCTION:**



LASER machines are very effective in glass cutting and various other applications.

### **STATEMENT:**

*“In the organization a LASER machine is under use. It is observed that it is generating different powers. What could be the reasons for it and how those can be reduced.”*

## **Problem Statement - 7:**

### **INTRODUCTION:**



In today's world there is need of fast transportation all around and protection of assets is also required. RFID trans-reception system is the best option, to save time, money and manpower and for security purposes.

### **STATEMENT:**

*“Looking for a complete design of Electronic Toll Collection (ETC) to automate the toll process on toll roads, bridges, and tunnels.”*

## **Problem Statement - 8:**

### **INTRODUCTION:**



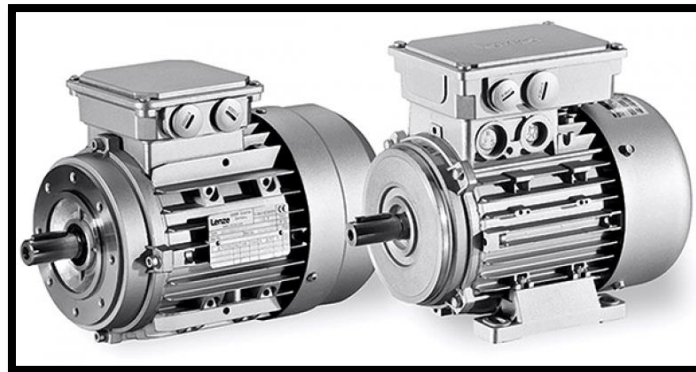
Now a day's electricity theft is a common problem in power transmission and distribution. Electricity theft can be in the form of fraud (meter tampering), stealing (illegal connections), billing irregularities, and unpaid bills. The evidence shows that theft is increasing in most regions of the India.

### **STATEMENT:**

**“Expecting technical solutions and ways to reduce electricity theft in our country.”**

## **Problem Statement - 9:**

### **INTRODUCTION:**



Electrical machines (motors, generators and transformer) are the most important part of any industry to get production. Therefore, the rate of production of industry is depends on the operation of the electrical machine. So, to get reliable and economical production in industry, it is necessary to maintain the reliable operation of machine.

There are several faults occurs in electrical machines which are minor due to power supply disturbance and the are several major problems like inter-laminar faults occurs in it, which damages the machine permanently or affect the machine very seriously. The repairing of such fault is very costly. So, it is important for any industry to

maintain electrical machines reliable and to prevent the faults by giving it a periodic maintenance.

**STATEMENT:**

*“Expecting a plan or design that would accomplish this task.”*

**Problem Statement - 10:**

**INTRODUCTION:**



In today's era of energy management to survive for longer period in market an organization must reduce the waste of energy. Heat is the one of the form of energy which is most widely used than other form of energy. It is also truth that 90 % energy lost occurs in form of heat. Heat is used in every corner of world. Industry is a gas based power plant which is wasting heat energy through hot exhaust gases. It also uses boiler for generating steam for sizing machine for another process of industry.

**STATEMENT:**

*“Figure out the ways in which exhaust gas heat recovery can be done.”*

**Problem Statement - 11:**

**INTRODUCTION:**





Construction of Tall Buildings is usually often in current economy. But various constrains come into picture during the process. It was proposed to construct a 5-storied residential apartment at a site where a pond was consolidated with soil. The possibility of construction is needed.

**STATEMENT:**

***“What are the precautionary measures that a civil engineer should ensure before and at the time of construction? What is the type of foundation you would suggest for the above said construction?”***

**Problem Statement - 12:**

**INTRODUCTION:**



Multi-storey Buildings are usually found in many places. But the Design and Modelling of Multi-storey water tanks are not seen regularly. Achieving this design could resolve some of the difficulties in maintaining sufficient water for necessary requirements.

**STATEMENT:**

***“Design a Multi-floor water tank system which is feasible in construction and helps in achieving efficient supply of water to consumers.”***

## **Problem Statement - 13:**

### **INTRODUCTION:**



Air crafts are one of the Major Transportation in current economy. They touch lives of many people as the fastest mode of transportation. But the Major problem is they cause severe damage to atmosphere by releasing harmful gases into it.

### **STATEMENT:**

***“Come up with an Innovative solution in reducing the carbon footprint by Aircrafts.”***