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Slot : E21+E22+E23
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Term End Examination

(1)

3)
(b)

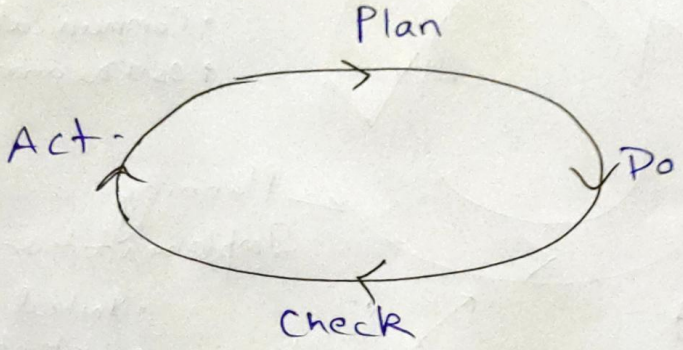
Managing safety and health is an integral part of managing busiress. Busines needs to do a risk assessment to find out about the hazard and risk in their workspace and put measure to control them.

The notion of management system is used often in the decision making process. The application of Occupational safety and health management systems (OSHMS) is based on of OSH criteria, standards and performance.

It aims at providing a method to assess and impoove performance in the prevention of workspace incidents and accidents via the effective management of hazards and risks in the workspace.

It is a logical, step wise method to decide:-

- what needs to be done.
- how best to do it.
- Monitor progress.
- Evaluate how well we are doing.
- Identify area of Improvement.



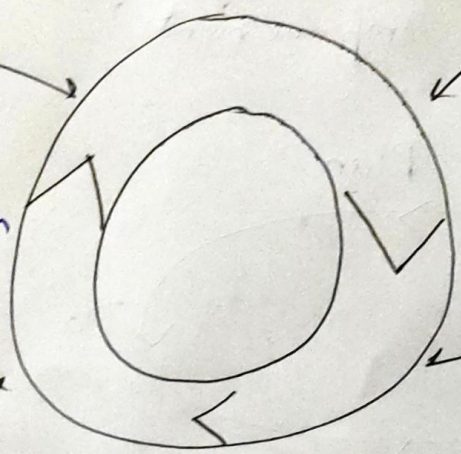
This concept is based on the principle of the "Plan-do-check-act" Deming cycle. (PDCA).

Occupation safety and health, including compliance with the OSH requirement pursuant to national law and regulations., is the responsibility and duty of the Employer.

Employer should show strong leadership skills and commitment to OSH activities in the organisation.

The system should contain the main elements of policy, organizing, planning and implementation, evaluation and actions for the improvement

DIAGRAM



Policy.
- OSH policy.
- Worker participation

Organizing.
- Responsibility
- Accountability.
- Communication
- OSH Documentation

Planning and Implementation.
- Initial review
- system planning
- OSH Objective.
- Hazard prevention

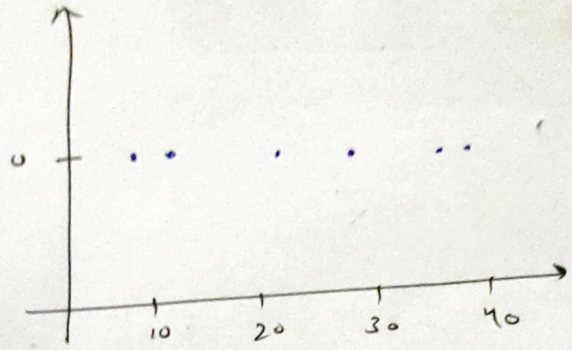
Evaluating
- Investigating
- Audit.
- Management review.
- Performance monitoring
- Measurement

Actions for Improvement.
- Preventive and corrective action.
- Continual improvement.

2]

(b) [8, 11, 21, 27, 35, 37]

Let's visualize



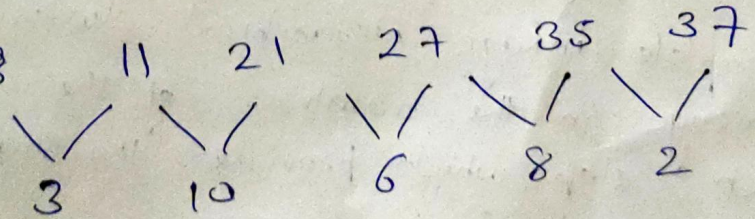
Observation:

- First two points are close to each other they should form a cluster.
- Next two should form a cluster
- And last two should form a cluster.

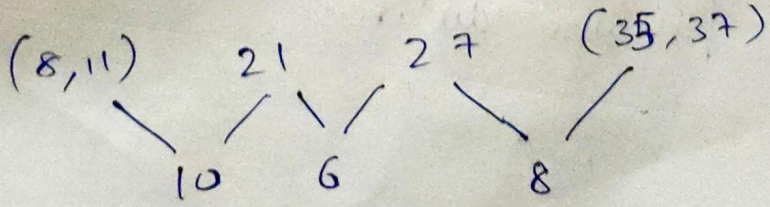
Single Linkage.

In Single Linkage hierarchical clustering, we merge in each step the two clusters whose two closest member have smallest distance.

(1)



(2)

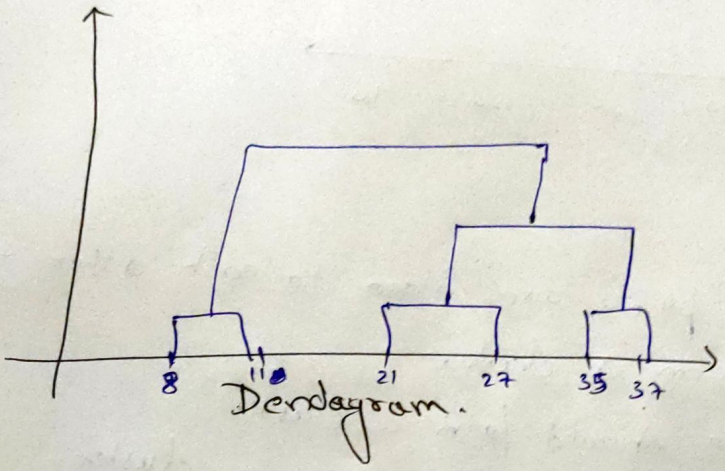


(3) (8, 11) (21, 27) (35, 37)

10 8

(4) (8, 11) (21, 27, 35, 37)

10



Dendogram.

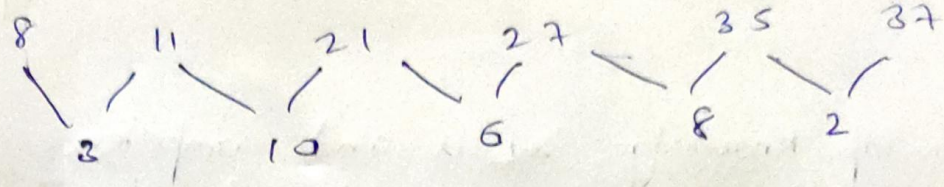
Clusters formed.

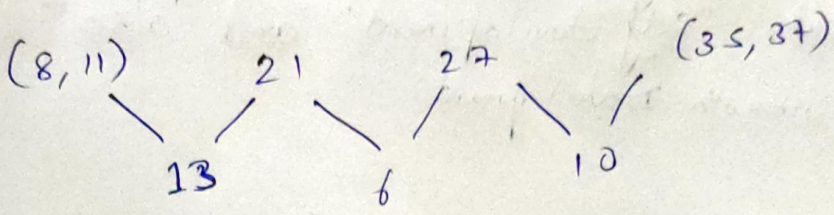
Cluster 1 : (8, 11)

Cluster 2 : (21, 27, 35, 37)

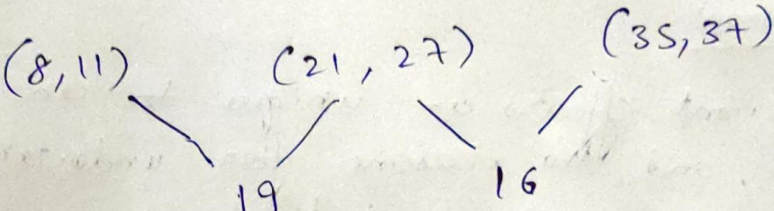
Complete Linkage.

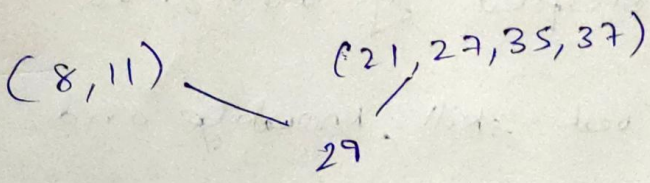
In complete Linkage hierarchical clustering, we merge in the members of the clusters in each step, which provide the smallest maximum pairwise distance.

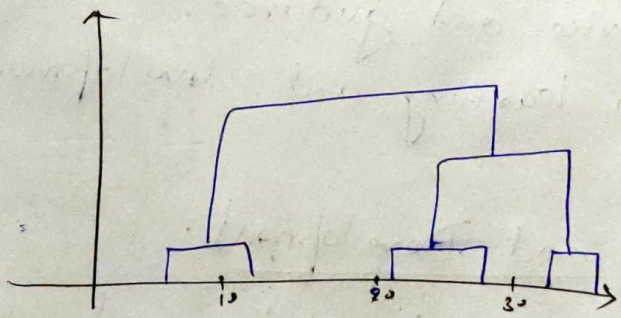




37
-8
29







Demogram

Clusters formed.

Cluster 1 : (8, 11)

Cluster 2 : (21, 27, 35, 37

I] (a) (7)

This can be computed by using Co-variance:-

$$Cov(A,B) = E((A-\bar{A})(B-\bar{B}))$$

$$= \frac{\sum_{i=1}^{n} (a_i-\bar{A})(b_i-\bar{B})}{n}$$

It can be simplified to:

$$Cov(A,B) = E(AB) - \bar{A}\bar{B}$$

Values of Stocks:

(2,5), (3,8), (5,-10), (4,-11), (6,14), (7,15)

$$E(A) = (2+3+5+4+6+7)\cdot 1/6$$
$$= 27/6 = 4.5$$

$$E(B) = (5+8-10-11+14+15)/6$$
$$= 21/6 = 3.5$$

$$Cov(A,B) = (10+24-50-44+84+105)/6 - (3.5 \times 4.5)$$
$$= 129 - 15.75$$
$$= 113.25$$

$\therefore Cov(A,B) > 0$

then A and B tend to be larger than the expected value.

Covariance.

$$Cov(A,B) = E((A-\bar{A})(B-\bar{B})) = \frac{\sum_{i=1}^{n}(a_i-\bar{A})(b_i-\bar{B})}{n}$$

It can be simplified in computation as:

$$Cov(A,B) = E(A \times B) - \bar{A}\bar{B}$$

Correlation coefficient $\Rightarrow \gamma_{A,B} = \frac{Cov(A,B)}{\sigma_A \sigma_B}$

where,
- n = no. of tuples
- $\bar{A}, \bar{B}$ = respective mean or expected value of A & B.
- σ_A, σ_B = respective standard deviation of A and B.

Positive Covariance

- If $Cov_{A,B} > 0$, then A and B tend to be larger than the expected values.

Negative Covariance

- If $Cov_{A,B} < 0$, then if A is larger than its expected value, B is likely to be smaller than its expected value.

Independeance

- $Cov_{A,B} = 0$ but converse is not true.
- Some pair of random value may have a covariance of 0 but are not independent. Under some additional assumptions, covariance 0 imply independence.

4]

Knowledge sharing is the process of transferring tacit (undocumented) and explicit (documented) information from one person to another.

In an organisation, sharing knowledge not only increases productivity, but it also empowers employees to do their job effectively and efficiently. Employee can work faster and smarter by getting easy access to insights, resources and expertise.

One of the most effective ways for an organisation to unlock the benefits of knowledge sharing is when you embed it within your culture.

Here are the seven great ways to improve knowledge sharing in an organisation:-

1. Encourage and foster Right mindset.
2. Create space for sharing to happen.
3. Encourage several forms of knowledge-sharing.

4. Lead by Example
5. Have experts share their knowledge.
6. Formalize a process
7. Use the most effective tools.

Ninety percent Employer want opportunity to share knowledge. With the growing expertise and skill gap to overcome, utilizing an AI-powered knowledge sharing platform with your organization would be very helpful.

Benefits

- Collaborate & build Collective knowledge.
- Build a community
- Find better ways of doing things
- Connect remote employee to knowledge.
- Create better customer experience.

Obstacles:

- Lack of time.
- Resistance to change.
- Lack of participation.
- Unnecessary complicated tools
- Anxiety about Job security.

5]

1. Develop knowledge, skills and competence is about "self development" and also "Career Growth Development"

Self Development

Self Development efforts are unique to an individual, and the reasons for undertaking them are specified by individuals.

- Identify the best skill, knowledge and competance.
- Obtain advice and guidance.
- Plan the learning and development activities.

Career Growth and Development.

- Identify required Knowledge and skill.
- Follow learning and development activities.
- Obtain feedback from mentors.
- Review your Knowledge and take appropiate actions.

Develop a coherent, practical and effective learning plan.

1. Create clear careers pathways.
2. Define roles and responsibilities.
3. Define knowledge and behaviour required.
4. Choose right training.
5. Build on skills and experience.
6. Monitoring your developing and learning journey

Skills which are commonly required in a Job.

1. Industry knowledge.
2. Professionalism.
3. Leadership
4. Customer Service.
5. Time Management.
6. Strategic thinking.