

# TKS

Ancient Indian Civilization

Aryan → civilized

Aryan! → Race

(8) Aryan Invasion theory

Goto, Seidel

Aryan not invaded  
but Aryan Migrated to Harappa

# HISTORY OF NUMBERS

(8) Universal History of Numbers  
by Zefrey.

A I

? Twining Term

? Dock Room Approach

Meaning of Rational?

A sys is Rational if it does

the "imitation game" given what it  
knows

## ④ The Turing Test Approach;

- The Turing Test, proposed by Alan Turing in 1950 was designed to provide a satisfactory operational definition of Intelligence. A computer passes the test if a human interrogator after posing some written questions, can not tell whether the written responses came from person or from a computer.

## Objectives / Goals of AI

1. Understanding human cognition;  
try to obtain deep knowledge of human memory, problem solving activities, learning & decision making etc.

2. Cost effective automation  
To replace human in intelligence task the machine have programs which perform as well as humans currently doing the jobs.

③ Cost effective Intelligent Application;

Build system to help human think better, faster, and deeper

④ Super human Intelligence

Build programs to exceed human Intelligence

⑤ General Problem Solving

To some broad range of problems. System having breadth of mind.

⑥ Coherent discourse;

Communicate with people having natural language. Carry out intelligent dialogues.

⑦ Autonomy;

To develop autonomy intelligence sys. That can act on own initiative.

## ⑧ Learning;

The system should be able to gather own data.

## ⑨ Store Information;

To store information and how to retrieve it.

---

## F MAT

Equivelance of formulae:

A, B Statement formula

use variables  $P_1, P_2 \dots P_n$

$2^n \rightarrow$  for n variables

Truth value of A is same as  
Truth value of B

Example :

$$F_1 = (P \wedge \neg P) \vee Q$$

$$F_2 = Q$$

P	Q	$F_1$	$F_2$
0	0	0	0
0	1	1	1
1	0	0	0
1	1	1	1

$$P \Leftrightarrow Q \quad (P \rightarrow Q) \wedge (Q \rightarrow P)$$



Biconditionally

P	Q	$P \rightarrow Q$	$Q \rightarrow P$	$P \Leftrightarrow Q$
0	0	T	T	T
0	1	T	F	F
1	0	F	T	F
1	1	T	T	T

⊕ P, Q are equivalent

then;  $P \Leftrightarrow Q$  is a TAUTOLGY

? How we can check  
tautology?

By watching the  
formula. for both truth  
and both false

Another Symbol

$$A \Leftrightarrow B$$

where

$$A \geq B$$

Prove on truth      tautology.

①  $P \rightarrow Q \Leftrightarrow \neg P \vee Q$

$$\textcircled{2} \quad P \rightarrow (Q \rightarrow R) \Leftrightarrow P \rightarrow (\neg Q \vee R)$$



$$(P \wedge Q) \rightarrow R$$

$$\textcircled{3} \quad P_1 \rightarrow ((P_2 \rightarrow (P_3 \rightarrow \dots \rightarrow P_n)) \\ \Leftrightarrow (P_1 \wedge P_2 \wedge \dots \wedge P_{n-1}) \rightarrow P_n$$

~~$$P \rightarrow (Q \rightarrow (R \rightarrow S)) \\ \Leftrightarrow (P \wedge Q \wedge R) \rightarrow S$$~~