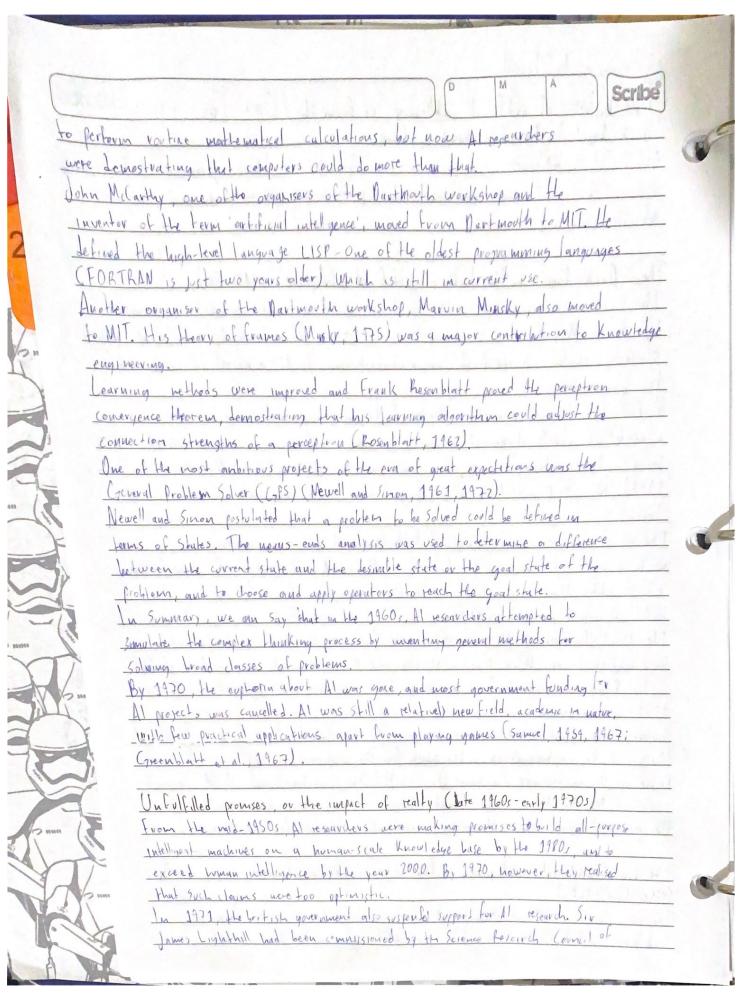
ateligencia Antificial The history of artificial intelligence, or from the Dark Ages' to Knowledge-based systems Artificial intelligence as a science was fourted by thee generations of researches. Some of the most important events and contributors from each governation are described best The 'Dark Ages', or the birth of artificial intelligence (1943-56) The first work recognised in the field of artificial inteligence (AI) was presented by Warren McCullock and walter Pills in 1943. His fesseard on the central nervous System resulted in the first major contribution to Al: a model of neurous the brain. McCulloch and his co-author Walter Pills, a young matternativen, proposed a mose of artificial neural networks in which each neuron was postulated as being in binary state, that is, in either on or off condition (McCollock ay fitts, 1943). McCullock and fills also showed that simple network structures could The neural network model simulated both theorical and experimental work to nadel the brain in the Jabovatory. McCullock, the Sound founding fother! of Al offer Algu Toring had created the cornertone of neural computing and artificial neural networks (ANN) The third founder of Al was John von Neumann, the bulliant hungarian horn mathematician. When Marvin Minsky and Dean Edmonds, two graduate students in the Princeton mathematics department, built the first neural network computer in 1951, von Neumann encouraged and supported then. Another of the first-generation researchop was Claude Shunnon. Thus Shakkon demostrated the weed to use heuristics in the search for the solution. Princeton University was also hime to John Milarthy, another Coonder convinced Martin Minsky and Claude Shannon to organise a Super workshop at Dartmouth College, where McCarthy wooked after graduating from Princeton. The vise of artificial intelligence, or the eva of great expectations (1456-late 1960s) The early years of Al are characterised by tremendous outhus, as in, great ideas and very limited socess. Only a few years before, comprers had been introduced



Scribe Scribe Great britain to review the wrient state of AI (Lighthill, 1973) The technology of expert sixstems, or the key to Buccoss (early 1970,-mid 1950s) Probably the most important berelopment in the 1970s was the realisation that the problem bourgen for intelligent machines had to be sufficiently restricted. A yeneral purpose search mechanism could rely on elementary reasoning steps to find complete solutions and could use weak knowledge about domain. The DENDRAL pregram is a typical example of the emerging technology from to Knowledge (Bushavan et al. 1969). NENDRAL was developed at stanford University to a perception DENDRAL marked a major "paradigue shift in Alia hift from general propose, Knowledge-spirse, weak methods to domain-specific, Knowledge intensive techniques. Expert systems are also difficult to verify and validate. No general techique has jet been sereloped for an young their completeness and consistency. Expert systems, especially the first generation, have little or no ability to learn From their experience. Expert systems are built individually and connect be Levelaged fast. How to make a machine tearn, or the ubirth of neural networks (und-1480s onwards) In the mad-1980s, Al researchers revisited pourul networks after disillusionment with expertagateurs led to predictions of an Al winter. Although the foundamental concepts of pasonal comporting had been established by the 1960s, limitation of early peraption, as Demostrated by Minsky and Papers (1969), caused interest in herial networks to decline in the 1920s. The most significant milestone was the remiention of the buckpropagation fearning algorithm by homethart an Mc (Ielland (1986), originally justicitized by Bryson and (urios Ho(1969). This breakthrough, along with contributions from forker (1987) and (e(vn(1988), made backpropagation the dominant technique for training moltilaxer perceptions. Additionally, Broomlead and love (1486), introduced. vadral basis function networks as an alternative approach.

