Chapter 1 : APL Civil Space: About

APL, fifty years of service to the nation: a history of the John Hopkins University Applied Physics Laboratory / by William K. Klingaman.

Mathematical notation[edit] A mathematical notation for manipulating arrays was developed by Kenneth E. Iverson , starting in at Harvard University. Applied mathematics is largely concerned with the design and analysis of explicit procedures for calculating the exact or approximate values of various functions. Such explicit procedures are called algorithms or programs. Because an effective notation for the description of programs exhibits considerable syntactic structure, it is called a programming language. This notation was used inside IBM for short research reports on computer systems, such as the Burroughs B and its stack mechanism when stack machines versus register machines were being evaluated by IBM for upcoming computers. Iverson also used his notation in a draft of the chapter A Programming Language, written for a book he was writing with Fred Brooks , Automatic Data Processing, which would be published in In , Herbert Hellerman, working at the IBM Systems Research Institute, implemented a part of the notation on an IBM computer, and it was used by students in a special high school course on calculating transcendental functions by series summation. After this was published, the team turned their attention to an implementation of the notation on a computer system. One of the motivations for this focus of implementation was the interest of John L. Lawrence asked Iverson and his group to help use the language as a tool to develop and use computers in education. Breed and Philip S. The basis of this implementation was described in detail by Abrams in a Stanford University Technical Report, "An Interpreter for Iverson Notation" in , the academic aspect of this was formally supervised by Niklaus Wirth. This was used on paper printing terminal workstations using the Selectric typewriter and typing element mechanism, such as the IBM and IBM terminal. Keycaps could be placed over the normal keys to show which APL characters would be entered and typed when that key was struck. Falkoff and Iverson had the special APL Selectric typing elements, and , designed in late , although no APL computer system was available to use them. An example is the grade up character, which had to be made from a delta shift-H and a Sheffer stroke shift-M. This was necessary because the APL character set was much larger than the 88 characters allowed on the typing element, even when letters were restricted to upper-case capitals. APL gained its foothold on mainframe timesharing systems from the late s through the early s, in part because it would support multiple users on lower-specification systems that had no dynamic address translation hardware. Somewhat later, as suitably performing hardware was finally growing available in the mid- to lates, many users migrated their applications to the personal computer environment. The ability to programmatically communicate with the operating system for information and setting interpreter system variables was done through special privileged "I-beam" functions, using both monadic and dyadic operations. SV, which was a continuation of the same product, but which offered shared variables as a means to access facilities outside of the APL system, such as operating system files. In , Patrick E. In , student Alan Stebbens was assigned the task of implementing an internal function. In North America, the better-known ones were I. With the advent first of less expensive mainframes such as the IBM , and later the personal computer, by the mids, the timesharing industry was all but gone. Sharp APL was available from I. Sharp Associates , first as a timesharing service in the s, and later as a program product starting around Sharp APL was an advanced APL implementation with many language extensions, such as packages the ability to put one or more objects into a single variable , file system, nested arrays, and shared variables. APL2[edit] Starting in the early s, IBM APL development, under the leadership of Jim Brown , implemented a new version of the APL language that contained as its primary enhancement the concept of nested arrays, where an array can contain other arrays, and new language features which facilitated integrating nested arrays into program workflow. Sharp Associates , where one of his major contributions was directing the evolution of Sharp APL to be more in accord with his vision. IBM cites its use for problem solving, system design, prototyping, engineering and scientific computations, expert systems, [39] for teaching mathematics and other subjects, visualization and database access [40] and was first available for CMS and TSO in NET Framework , XML-array conversion

primitives, graphing, operating system interfaces, and lambda calculus expressions. APL has formed the basis of, or influenced, the following languages: FP , a functional programming language. Polymorphic Programming Language , an interactive, extensible language with a similar base language. S , a statistical programming language. Speakeasy , a numerical computing interactive environment.

2. APL - fifty years of service to the nation: a history of the Johns Hopkins University Applied Physics Laboratory 2. Laurel, Md.: The Johns Hopkins University Applied Physics Laboratory 3. APL, fifty years of service to the nation: a history of the John Hopkins University Applied Physics.

APL[edit] 1APL entered service at the end of , with classmates both first- and second-class entering service every few weeks through to The initial design called for the side doors on each carriage to slide, like the Tait train design. However, in the faster country services with generally rougher track, these tended to cause draughts and slide open regularly, causing passenger complaints. By the time the problem was recognised, carriages had been produced as far as 33APL. Before 27APL was released to service its sliding doors were replaced with swing doors, matching the earlier designs. Second-series APL cars 48, 3, 5, 9, 13, 7, 8, 16, 50, 53, 6, 10, 11, 49 and 15 took BPL numbers 28 and 47 replacing cars since destroyed and From the late s a considerable number of APL carriages were retrofitted with pressure-flushed toilets in lieu of the normal drop toilet design. Vehicles known to include this feature were , and 54APL. In the mid s it was decided that first-class travellers deserved a better level of service than what was being provided by the APL fleet, so those cars were downgraded to second class. It was used as a supplement to the DERM trailer fleet. The conversion involved removal of three compartments at the smoking end, and reworking of nearly all the others. The second compartment had swing doors installed, in lieu of compartment 3. External swing-doors were retained in compartment 5, and compartment 6 became the smoking section. As a result seats adjacent to the centre aisle did not have armrests on that side. The car had capacity for 51 passengers plus a guard and up to four tons of luggage. In the buffers and hook-couplings were restored, and the car recoded to 1BCPL. End vestibules are thought to have been fitted to 1BCPL in the mid s, around the same time as the rest of the PL fleet. BPL cars[edit] The number group was eventually 1 - , including conversions from the first class cars. The carriages, which were affectionately known as "Bouncing Passenger Lounges," were removed from service by the early s. Original cars[edit] An initial fleet of fifty-five BPL carriages were built between and , identical in design to the swing-door design used with 27APL. Shortly following the completion of those cars, the flaw of the first-class sliding door design was realised and those carriages were reclassed as BPL 56 through 87, allowing new cars to be built as first-class swing door types. These conversions ran from As noted below, twelve BPL carriages were allocated to special duties in the period Additionally 49BPL was scrapped in following damage at Tynong. This latter scrapping is recorded as 14 August , the same date that 25APL was scrapped following damage at Moriac. The carriage had its seats removed and replaced with thirteen triple-bunk beds for a capacity of 39 patients. Externally it was painted all-over moonstone grey, as used around the windows of electric suburban trains at the time; all windows except those in the middle door were painted white. Cars 36, 38, 51, 58, 60, 72, 74, 75 and 98BPL became Hospital Cars in a very similar fashion to 82BPL, except that they were fitted with only twelve triple-bunk beds 36 berths , as well as 24 lockers for personal belongings in each car, and they were fitted with end diaphragms. It is not known whether 82BPL had lockers, or if so how many. Additionally, 57BPL was converted to a staff car with end diaphragms, though not much is known about its internal configuration. The Troop Trains allowed the Army Movement Control to plan troop movements without the railway department worrying about having to shuffle or acquire normal passenger stock. Originally, the troop trains ran primarily to Albury , Tocumwal , Serviceton and Bairnsdale. In the carriages had berths removed, making them empty shells. The carriages were therefore the best-suited for rebuilding into the Jubilee Train, celebrating 50 years since Federation. The carriages were repainted externally into green with gold and paired with locomotive N , painted in a similar livery. Locomotive N at the ARHS Museum has been repainted into this Jubilee livery for many years, even though that engine never wore the green and gold scheme in service. The Jubilee train was fitted internally with a series of displays of state produce and examples of achievements, and was run across most lines in both suburban and country areas to allow locals in 66 towns [6] to explore and learn. The train ran first to South Australia between July 30 and October 7, Following this, the train was transferred back to Victoria and

continued its journey in native territory. This led to the same BPL number being occupied by different cars thirty years later. APL carriages 1â€"4, , , , 26, , 35, 38, 40, and 54 became BPL carriages 88â€" In , the car was recoded to BCPL 1. It was the only BCPL car until The idea was to reduce the tonnage of short haul interurban trains by incorporating a guards van into a carriage rather than adding a dedicated guards van. Unlike the other member of the class, 2BCPL was only slightly changed from its previous identity. A single compartment at the Smoking end was walled off from the rest of the carriage and had its seats removed. Taildiscs were added to both ends of the carriage for end-of-train marking in daylight, and for night red lamps were added on the four roof corners. Both fitted doors were smooth-panelled and split at half-height allowing the guard to lean out of the train to observe signals and display flags as necessary. When 2BCPL proved to be a success, further carriages were converted, much to the same design. BCPL cars entered service in , followed by in and in , being converted from BPL cars , 92, , , , , 34, and 88 respectively. These last four cars were significantly different, being referred to as the "large van" type in various enthusiast circles as more compartments were sacrificed for a larger guard compartment, served by additional doors for loading of larger parcels. The seats were removed allowing the car to become one large dance floor. Nil -- BPL withdrawn Nil -- withdrawals: BCPL , 5, , , , , 27 x16 , BPL 1, 4, 7, , 12, , , , 50, , , 76, 81, 90, 94, , , , , x35 -- withdrawals: BPL 38, 43, 54, 70, 73, 75, 91 x7 -- withdrawals: As a result, patronage began to fall, and combined with motor car travel, the need for local train services fell very quickly. The cars were removed earlier than many other classes, because with their lighter construction they could only handle a maximum drawbar load of tonnes trailing, against tonnes for the other timber passenger car classes. PSM has released brass models of the PL fleet in the past. Vincent and Daryl M.

Chapter 3 : JHUAPL: Satellite Communications Facility

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Today, the Glacier Bay Lodge, like all Mission 66 projects, serves as an enduring reminder of the efforts of the National Park Service to welcome, accommodate, and serve generations of visitors. Recognizing that there were no hotels for travelers with delayed flights due to inclement weather, park managers planned to construct a lodge closer to the airport, at Bartlett Cove, with the potential to accommodate both park visitors and delayed travelers. Boardwalks were designed to immerse guests in the rainforest. During World War II, national park units nation-wide were faced with lean budgets, and following the war, families traveled to parks in droves, resulting in inadequate visitor facilities. The National Park Service responded to this opportunity with a major initiative, Mission 66, celebrating the 50th anniversary of the National Park Service. Mission 66 would be responsible for the construction of new park administrative facilities, roads, campgrounds, amphitheaters; At this time, the NPS turned away from the expensive log-based, rustic style architecture that dominated national parks in the early twentieth century, and moved towards modern architecture and building techniques. The opportunity was active for two years, without a single applicant. Federal funding was ultimately allocated to construct the property. This would be the only time federal funds were used to construct visitor overnight accommodations during Mission Morse had just completed the visitor center at Sitka National Monument. The distinctive roofline is now mirrored throughout the park. The central lodge, with a check-in area and dining room, is flanked by wings of cabins with features that echo the design of the lodge. The complex is connect with a system of boardwalks through the forest. The grand opening of the Lodge in marked the conclusion of one of the final Mission 66 projects. Over 50 years later, the complex is considered historically significant for its associations with Mission 66, and for its excellent examples of Park Service Modern architecture. Glacier Bay Lodge was a jewel in the Mission 66 crown, reflecting the cultural and scenic heritage of Glacier Bay through modern architecture. In the main lodge, the exposed carved wooden beams evoked traditional Tlingit clan houses. Before the second story was added, light filtered through the tall windows like light through the trees in the forest. Uncovered walkways immersed guests in the rainforest as they walked to their cabins. Chapters of the American Institute of Architects bestowed several awards on the Lodge. Over the next few years, Glacier Bay is embarking on an ambitious series of projects to renovate the lodge. This summer guests will enjoy new furniture in rooms and the lobby, renovated boardwalks, and even a new boiler system. Park staff will continue to be busy with a variety of interior and exterior improvements, ensuring another 50 years of welcoming visitors to their National Park.

Chapter 4 : APL (programming language) - Wikipedia

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To view a copy of this license, visit http: Abstract Historically, acute promyelocytic leukemia APL was considered to be one of the most fatal forms of acute leukemia with poor outcomes before the introduction of the vitamin A derivative all-trans retinoic acid ATRA. The disease is now considered to be the most curable subtype of acute myeloid leukemia AML in adults. Nevertheless, APL remains associated with a significant incidence of early death related to the characteristic bleeding diathesis. Early death, rather than resistant disease so common in all other subtypes of AML, has emerged as the major cause of treatment failure. Introduction Acute promyelocytic leukemia APL is a unique subtype of acute myeloid leukemia AML , with the first description as a distinct entity in Historically, APL has been characterized by a rapidly fatal course with a high incidence of early hemorrhagic death. Urgent administration of ATRA should be initiated with aggressive supportive measures including blood product support with platelets and cryoprecipitate while the genetic diagnosis is rapidly established. However, as the outcomes for patients with low- and intermediate-risk disease are similar, these categories have been collapsed into one and considered as low-risk disease. Where did we start Induction regimens APL has been associated with a high incidence of early hemorrhagic death. Pre-ATRA era reinduction, consolidation and maintenance therapy Several early studies attempted to optimize reinduction for relapsed patients, consolidation and maintenance strategies in APL. Initial reports addressing outcomes following relapse were poor, with the best outcomes being achieved by Kantarjian et al. A variety of reinduction attempts were utilized in the pre-ATRA era; strategies including previous induction regimens were rarely successful. Where we are now Induction regimens utilizing chemotherapy: Continuous treatment with ATRA is characterized by reduction of its plasma concentration because of accelerated clearance. Numerous prospective randomized studies were conducted to exploit the potential benefits of the combination of ATRA and chemotherapy. There has been controversy surrounding the optimal chemotherapy regimen to combine with ATRA. First, there are no definitive data to suggest the superiority of one anthracycline over another, as no prospective studies have been conducted comparing idarubicin with DNR in APL. Furthermore, there is no clear consensus on the role of cytarabine during induction therapy, although a number of studies have indicated that cytarabine is not needed in induction in any risk subset of patients. Two randomized trials investigated the role of cytarabine combined with either idarubicin or DNR, but yielded conflicting results. Given the favorable results from risk-adapted treatment strategies, first in the LPA99 trial followed by the LPA trial, an additional induction option includes ATRA plus idarubicin with risk-adapted consolidation. Similar CR rates between groups between 90 and Compared with APML3 results, this trial demonstrated a statistically significant improvement in freedom from relapse, disease-free survival DFS and failure-free survival, but not OS Figure 1. Furthermore, given the small number of high-risk patients, dedicated randomized trials in high-risk patients are required before drawing firm conclusions regarding the optimal induction regimen in this subset of patients.

Chapter 5 : Acute promyelocytic leukemia: where did we start, where are we now, and the future

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Chapter 6 : Victorian Railways PL type carriage - Wikipedia

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Chapter 7 : ENB President Honored for Years Service in Banking | ENB

The Atmore Public Library celebrated 50 years of service to the community. There were photos and history of the library system in Atmore. There was an ad for the telephone company to get people to "spice up their kitchen with a phone.