Computer language labelled maple

A team at the University of Waterloo in Waterloo, Ontario has created a new computer language that is expected to make computers more accurate in solving mathematical equations.

Using the expanded memory capacity of modern computers, the university team designed the language, called "maple", which permits fractions to be computed as fractions and allows for more precise calculations.

Using traditional computing languages, numbers are transformed into decimals. One-third is always chopped off and represented as .333333. In arithmetic, three-thirds equals one, but when a computer adds the decimal equivalents of three-thirds its gets .999999. The difference appears minor, but in large mathematical computations, substantial miscalculation can result.

Canadian industry promoted in Southeast Asia

A federal government campaign to increase exposure for Canadian industry last year resulted in 145 companies breaking into Southeast Asian markets for the first time.

The campaign was initiated by federal trade officials and was emphasized at the Canadian trade post in Singapore.

During 1981, Canadian firms participated in nine trade shows and four industry missions in Singapore through sponsorship by the federal and provincial governments, industry associations and private industry.

Canadian exhibitors included manufacturers of wood-working, educational, fisheries, aerospace, mining, communications, and data processing equipment, as well as hardware and industrial machinery.

Canadian companies will continue to exhibit in Singapore trade shows throughout 1982, and preparations are currently under way for Canadian participation in six shows focusing on offshore oil and gas, housewares, recreation, electricity, electronics and communications.

In addition, six federally-sponsored missions, and at least one provincial government mission, are expected to include Singapore in their 1982 itinerary. Finally, plans are being made to give Singapore government and industry leaders, a first-hand look at Canadian capabilities in a wide range of fields.

Special awards for athletes

Canada's top athletes were honoured by the federal government at a dinner and awards ceremony held recently in Ottawa.

Fifty-seven world-calibre athletes and two coaches were presented with awards from the Ministry of Fitness and Amateur Sport during the First Tribute to the Champions dinner.

The Citizen

Prime Minister Pierre Trudeau (left) *speaks with world champion skier Steve Podborski* (right) *and retired fencer Chantal-Gilbert-Payer at the dinner.*

Since April 1, 1981, Canada has produced 27 World Cup winners, world champions or world record setters, including the 20-member Team Canada junior hockey squad, and 19 athletes who were medallists in major senior international competitions.

Alpine skiers Gerry Sorensen and Steve Podborski, paddler Larry Cain, shooter Susan Nattrass, yachter Terry Neilson, boxer Shawn O'Sullivan, swimmer Alex Baumann, and members of the Canadian junior hockey team received "World Champion" inscribed rings in recognition of their efforts.

Other winners received medallions for their excellent standing in international competitions. The dinner also honoured 11 retired athletes, including skiers Dave Irwin and Dave Murray, diver Janet Nutter, swimmer Graham Smith and gymnast Philip Delesalle and coaches Jack Donohue of men's basketball and Debbie Muir of synchronized swimming.

"There is no doubt that as a nation we are at the top level in a number of sports," said Abby Hoffman, director of Sport Canada. "We've seen the winter sports and it has been a very good year. We'll get more indication on the summer sports with the Commonwealth Games. Canada is ranked tenth to thirteenth over-all and I think we can be in the top six some day. That would be a major, major effort – a quantum leap – and possibly accomplished by the end of the decade."

Diabetics test synthetic insulin

Seventy Canadian diabetics from seven hospitals in Toronto are taking part in a two-year trial of bioengineered synthetic insulin.

The study aims to show the viability of synthetic insulin as a satisfactory replacement for the purified cow and pig insulin which an estimated 250 000 Canadian diabetics inject into themselves each day.

A replacement for animal insulin is important because a projected doubling of the world's 60 million diabetics in 20 years will exceed present supplies.

Biosynthetic insulin is produced by splicing the human gene controlling the production of insulin in the pancreas into the genetic material of a bacteria. This provides the bacteria *(E. coli,* a common germ that normally inhabits the human intestinal tract), with a code that enables the bacteria to manufacture human insulin as they multiply. The synthetic insulin is one of the first long-term applications of recombinant DNA technology.

Allergic reactions possibly reduced

It is also hoped that using insulin which is chemically identical to that produced in the human body will diminish the allergic reaction some diabetics experience with animal insulin. As well, the synthetic insulin may circumvent the problem caused when antibodies increase the body's resistance to the animal insulin. At present this means diabetics may continually be forced to increase their daily insulin dosages.

Newly diagnosed diabetics or those who develop a need for insulin will be divided into three groups for the study. One will take the synthetic insulin, another the refined pig insulin, and another a mixture of cow and pig insulin. The patients will take blood samples at home to measure sugar levels in the system twice a week, and will see a doctor every two months.

There are similar synthetic insulin studies testing 900 diabetics under way world-wide.