

Kra n wawalen yef Tsenselkimt¹

1. Tangalt (code) ASCII

Aselkim ifehhem tameslayt n uselkim (*langage machine*). Tameslayt n uselkim d azrar n 0 d 1, d talya timisint (*forme binaire*). M'ara nezreg (*éditer*) azamul (d asekkil ney d amqan), azamul-a ad yettwasuqel yer tmeslayt n uselkim; yal azamul yellan yef unasiw (*clavier*), yures azal-is d tangalt (*code*).

Ger tengalin yellan : ASCII, tanselfat (*sigle*) n *American Standard Code for Information Interchange*. Tangalt-a d ttin n yemqanen d isekkilen, n tecraq n usenqed (*signes de ponctuation*) ney n tecraq nniqen. Tangalt ASCII, degs 256 n tengalin. Tebqa yef sin yehricen, yal aqric degs 128.

1.1 Tangalin tisluganin (codes standard)

Seg 0 ar 13, d tangalin n usenqed n taywalt (*contrôle de la communication*) d wayen yeânan tasaggazt (*imprimante*). Ticraq n tengalin-a ur d-teffiyent ara yef ugdil (*écran*), d ilem.

Seg 23 ar 127, d tingalin n tecraq n usenqed, d yemqanen (0 ar 9), d isekkilen imeqwrannen akwed isekkilen imezyanen n ugemmay alatini. Ticraq n tengalin-a tteffiyent-d yef ugdil.

1.2 Tingalin tisakakin (codes étendus)

Seg 128 ar 255, d tingalin n wid i-d-isnulfuyen iseyzanan (*logiciels*).

2. Timeslayin n usihel (langages de programmation)

Ma yili wugur gar ifassen-nney, newwi-yas-d awarzem (*algorithme*) i tifat-is. Awarzem d awalen (n tenfransist, teglizit, ...) i yesseqdac wussnan (*scientifique*) i tifat n wugur, maca aselkim (*ordinateur*), yures awalen-is imazlayan, agraw-nnsen d tameslayt n usihel (imeslayan i ifehhem uselkim), wid ara d-isenqen uselkim (d azrar n wanaqen (*instructions*)) i tifat. Ger tmeslayin-a :

2.1 FORTAN

Awal-a d asewzel n (*FORMula TRANslation*), anamek-is : tisuqelt n tenfalit. Acku awalen-is sehlen i useqdec n tusnakt (*mathématiques*). Amezwaru i d-yuran fella-s d Rutishauser, deg useggas 1952, maca ur d-yeffiy ara i leqdic alarmi d useggas 1955, s yur John Backus. Tameslayt-a telha nezzeh i inelmaden ussnanen n tesdawit.

2.2 BASIC

D asewzel n (*Beginner's All purpose Symbolic Instruction Code*). Yeffey-d deg useggas 1965. D tameslayt i iwulmen i wid urâad ssnen nezzeh timeslayin n usihel, acku awalen n umeslay yettwaqdacen di *BASIC* sehlen, ferzen. Yelha nezzeh i inelmaden n tesdawit deg uswir amenzu. S kra n wawalen, anelmad yezmer ad yektil: tajumma (*surface*), abley (*volume*), azikit (*périmètre*), atg, ney ad a-d-yefru tigdiwin (*équations*).

2.3 PASCAL

Teffey-d ger useggas 1967 d 1971 s yur Niklaus Wirth. Yefka-yas isem-ayi ilmend umusnaw ameqqran Blaise Pascal (1623-1662). Tameslayt n PASCAL tettwassen atas seg wasmi i-d-

¹ Tussna deg 'selkimen, Science des Ordinateurs (Informatique)

teffey i lyaci tmeslayt n *Turbo Pascal* deg useggas 1984, s yur *Borland International*, imi wwden azal n umelyun i-yettuzenzen segs.

PASCAL dayen iwulem i tusnakt, yelha nezzeh i inelmaden ussnanen n tesdawit.

2.4 Tameslayt C

D tameslayt i-d-ilulen deg useggas 1972, s yur umusnaw Denis Ritchie. Di tazwara, timeslayin-a magnatent² i useqdec n uselkim (ilehhun s *Unix*); maca, deg useggas 1989, yuy abrid n useqdec s wahil, yuyal am wid nezra yakan.

2.5 DBASE

Ger taggara n iseggasen n 70, amusnaw Wayne Ratliff (iqeddcen di NASA), isnulfa-d timeslayin i useqdec n taffa n isefka (*base de données*), i wumi isemma *VULCAN*.

S yin akkin, Georges Tat d Hal Lashlee, gren-d afus, rnan sqeâdent, armi d useggas 1981, yuyal isem-is *Dbase (data base)*.

3. Awalen n tmeslayin n uselkim

Awalen-a zemren ad ilin, d awalen yemmden n teglizit ney d asewzel n wawalen n teglizit.

Amedya

Wagi d ahil, s tmeslayin i nezra, sendahen aselkim i wakken ad yaru yef ugdil (*écran*), awal "AZUL".

s FORTAN

```
C Ahil amenzu
WRITE (*, *) 'AZUL'
END
```

s BASIC

```
10 CLS
20 REM Ahil amenzu
30 PRINT "AZUL"
40 END
```

s PASCAL

```
Program azul
Begin
    {ahil amenzu}
    WRITE ('AZUL');
End.
```

S Tmeslayt C

```
main () {
/* Ahil amenzu */
printf('AZUL');
```

² Yekka-d si tmacayt *magnat* (être convenable). *Semmegnet* : apprêter, améliorer.

}

s DBASE

CLEAR
 *Ahil amenzu
 ? 'AZUL'
 END

4. Amzruy n uselkim

Aselkim amezwaru (*premier calculateur*), amarew (*ancêtre*) n uselkim, sugnen-t-id u suffyen-t-id imusnawen-a : almani Wilhelm Schickard (1592-1635), afransis Blaise Pascal (1623-1662) d ulmani Goettried Wilhelm Leibnitz (1646-1716), di lqern XII.

“La pascaline”, d tamacint i-d-yesnulfa Pascal, txeddem timernit (*addition*) d usenqes (*soustraction*). Leibnitz, yerna-yas-d akfud (*multiplication*). Ger taggara n lqern XIX, afransis Joseph-Marie Jacquard (1752-1834), isnulfa-d azeṭṭa awurman (*automatique*), ileḥḥun s tkerḍiwin yeflan (*cartes perforées*).

Deg 1880, amusdan amarikan (*statisticien*), Haerman Hollerith (1860-1929), yeddem-d tikarḍiwin yeflan, yerra-tent i useqdec n isefka (*données*). Mi zrin 16 iseggasen, isbedd-d *Tabulating Machine Corporation*, yettwassnen ass-a s yisem *IBM*.

Amusnak (*mathématicien*) aglizi Charles Babbage (1792-1871), yufa-d imenzayen (*principes*) n uselkim umḍin (*calculateur numérique*).

Deg useggas 1939, John Atanasoff (1903-1995) d Cifford Berry, snulfa-d di *Iowa College State*, aselkim amenzu. Aselkim-a tḥerz-it ddula, alarmi d aseggas 1945, imi i-t-id-seknen di tihawt (*présentation*) n *ENIAC (Electronic Numerical Integrator And Computer)*. Aselkim-a deg-s 18000 n tegwmamin tilmawin (*tubes vides*), yezmer ad yexdem tiwinas n tmehlin (*centaines d'opérations*) di tasint (*seconde*).

Deg yiwet n tallit, 1943, n tṭrad n umaḍal wis sin, di *London*, tarbaât n imusnawen, yesnemhal Claude Turing, tesnulfa-d aselkim aliktrunan (*électronique*), *COLOSSUS*, degs 1500 tegwmamin tilmawin. Aselkim-a sqedcen-t i wezmak (*déchiffrement*) n yiznan (*messages*) ilmaniyeen. Iselkimen-a uyen isem n tsuta tamezwarut (*1ère génération*).

Deg useggas 1952, ḍehḥen-d iselkimen imezwura iqeddacen s wahil acfawan (*programme mémorisé*), s yur umusnak amarikan John Von Neumann (1903-1957).

Ger taggara n iseggasen 1960, yennulfa-d umnenniḍ ummid (*circuit intégré*), yezmer ad yesdukel azal n waṭas n izenba (*transistors*) deg teblaṭ n silisiyum (*plaque de silicium*).

Ger tlemmast n iseggasen 1970, yeffeḍ-d usekkar (*processeur*), yezmer ad yay azal n igima n izenba (*milliers de transistors*).

Aselkim yettwassnen aṭas di ddunit d aselkim umḍin (*ordinateur numérique*), yesseqdac tilya s tengalt (*informations codées*). Yettara-d isefka imrawanen (*données décimales*) yer isefka imisinen (*données binaires*). Arured n uselkim yettwaḥseb s imelyunen n Hertz (MHz) ; aselkim n 10 MIPS, yezmer ad yexdem 10 imelyunen n temhalin i tasint.

Afara (*progrès*) n uselkim macci d kra, arured-ines irennu, azal-is n tiyin ineqqes-d s 30% yef useggas yezrin.

Aywbel n imusnawen ass-a d asnerni di tnezmert n usiḍen (*puissance de calcul*) d usemzi n iselkimen. Kkaten ad rren aṭas imnenniḍen deg yiwen n uceḥḥun (*puce*).

5. Tasenselkimt

Tasenselkimt (*Informatique*) d tussna n usekker n tilya (*traitement de l'information*), s talya tawurmant (*automatiquement*). Tasenselkimt tuy azal meqquer di tmugri (*industrie*) d tedbalt (*administration*).

Tasenselkimt, tennulfa-d asmi i-d-ḡehren iselkimen imezwura, maca alarmi d aseggas 1950 i tuy azal n tussna, imi amusnak amarikan Norbert Wiener (1894-1964), isbedd-d lsa n usenwelleh (*cybernétique*), rnu amusnak amarikan Claude Elwood Shannon (1916) yesnulfa-d tizri n isalen.

6. INTERNET

D azetṭan tselyselkimt (*télématique*). Internet d azetṭa i-d-ilulen seg uzetṭa *Arpanet*, i-d-yeffyen deg iseggasen 1960, i usekker n temsulta n Marikan. Deg iseggasen 1970, *Arpanet*, yekcem yer tesdawiyin, alarmi yuy amḡiq-is deg useggas 1990.

Internet, di tazwara, yetwaxdem i tegmi imusnawen (*recherche scientifique*). Deg useggas 1991, yeffey-d World Wide Web.

Ass-a yal amdan yezmer ad yaweḡ yer isefka, tugniwin, atg. Internet yuy azal meqquer di tnezzut (*commerce*). Deg useggas 1995, azetṭa-ayi, yeqqen azal n sin imelyunen iselkimen d 30 imelyunen n yemdanen di 54 n tmura.

7. WORLD WIDE WEB

D agrudem iseḡdacen di Internet. Anamek n wawal-a (Azetṭa n tisist agraylan). Netta d agrudem yessawḡen ad yeldi azetṭa Internet i yal amdan. WWW ney WEB, yennerna-d deg useggas 1991, s ḡur umazzag (*spécialiste en informatique*) aglizi Timhoty Berners-Lee (d anagmay di CERN, Genève). Di tazwara, WEB yeffey-d i wakken ad awḡent tilya i yal anagmay (*chercheur*) deg umaḡal. Maca yal aseggas llan wid i d-iteqqnen yer Internet.

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