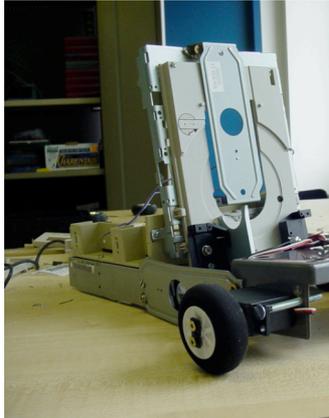




PROGRAMMATION DE MACHINES À L'ESI

Mikael Degeer

École Supérieure d'Informatique

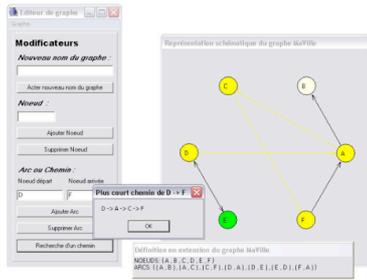


```

1 #include <cs1-1>
2 #include "graphe.h"
3 #include "Noeud.h"
4 #include "Arcs.h"
5 #include "Vecteur.h"
6 #include "Matrice.h"
7 #include "Mars.h"
8 #include "Mars.h"
9 #include "Mars.h"
10 #include "Mars.h"
11 #include "Mars.h"
12 #include "Mars.h"
13 #include "Mars.h"
14 #include "Mars.h"
15 #include "Mars.h"
16 #include "Mars.h"
17 #include "Mars.h"
18 #include "Mars.h"
19 #include "Mars.h"
20 #include "Mars.h"
21 #include "Mars.h"
22 #include "Mars.h"
23 #include "Mars.h"
24 #include "Mars.h"
25 #include "Mars.h"
26 #include "Mars.h"
27 #include "Mars.h"
28 #include "Mars.h"
29 #include "Mars.h"
30 #include "Mars.h"
31 #include "Mars.h"
32 #include "Mars.h"
33 #include "Mars.h"
34 #include "Mars.h"
35 #include "Mars.h"
36 #include "Mars.h"
37 #include "Mars.h"
38 #include "Mars.h"
39 #include "Mars.h"
40 #include "Mars.h"
41 #include "Mars.h"
42 #include "Mars.h"
43 #include "Mars.h"
44 #include "Mars.h"
45 #include "Mars.h"
46 #include "Mars.h"
47 #include "Mars.h"
48 #include "Mars.h"
49 #include "Mars.h"
50 #include "Mars.h"
51 #include "Mars.h"
52 #include "Mars.h"
53 #include "Mars.h"
54 #include "Mars.h"
55 #include "Mars.h"
56 #include "Mars.h"
57 #include "Mars.h"
58 #include "Mars.h"
59 #include "Mars.h"
60 #include "Mars.h"
61 #include "Mars.h"
62 #include "Mars.h"
63 #include "Mars.h"
64 #include "Mars.h"
65 #include "Mars.h"
66 #include "Mars.h"
67 #include "Mars.h"
68 #include "Mars.h"
69 #include "Mars.h"
70 #include "Mars.h"
71 #include "Mars.h"
72 #include "Mars.h"
73 #include "Mars.h"
74 #include "Mars.h"
75 #include "Mars.h"
76 #include "Mars.h"
77 #include "Mars.h"
78 #include "Mars.h"
79 #include "Mars.h"
80 #include "Mars.h"
81 #include "Mars.h"
82 #include "Mars.h"
83 #include "Mars.h"
84 #include "Mars.h"
85 #include "Mars.h"
86 #include "Mars.h"
87 #include "Mars.h"
88 #include "Mars.h"
89 #include "Mars.h"
90 #include "Mars.h"
91 #include "Mars.h"
92 #include "Mars.h"
93 #include "Mars.h"
94 #include "Mars.h"
95 #include "Mars.h"
96 #include "Mars.h"
97 #include "Mars.h"
98 #include "Mars.h"
99 #include "Mars.h"
100 #include "Mars.h"

```

12



```

1 void _fct101 (void) {
2     int i;
3     for (i = 0; i < N; i++)
4         _fct101 (i);
5 }
6
7 void _fct102 (void) {
8     int i, j;
9     for (i = 0; i < N; i++)
10        for (j = 0; j < N; j++)
11            _fct102 (i, j);
12 }
13
14 void _fct103 (void) {
15     int i, j;
16     for (i = 0; i < N; i++)
17         for (j = 0; j < N; j++)
18             _fct103 (i, j);
19 }
20
21 void _fct104 (void) {
22     int i, j;
23     for (i = 0; i < N; i++)
24         for (j = 0; j < N; j++)
25             _fct104 (i, j);
26 }
27
28 void _fct105 (void) {
29     int i, j;
30     for (i = 0; i < N; i++)
31         for (j = 0; j < N; j++)
32             _fct105 (i, j);
33 }
34
35 void _fct106 (void) {
36     int i, j;
37     for (i = 0; i < N; i++)
38         for (j = 0; j < N; j++)
39             _fct106 (i, j);
40 }
41
42 void _fct107 (void) {
43     int i, j;
44     for (i = 0; i < N; i++)
45         for (j = 0; j < N; j++)
46             _fct107 (i, j);
47 }
48
49 void _fct108 (void) {
50     int i, j;
51     for (i = 0; i < N; i++)
52         for (j = 0; j < N; j++)
53             _fct108 (i, j);
54 }
55
56 void _fct109 (void) {
57     int i, j;
58     for (i = 0; i < N; i++)
59         for (j = 0; j < N; j++)
60             _fct109 (i, j);
61 }
62
63 void _fct110 (void) {
64     int i, j;
65     for (i = 0; i < N; i++)
66         for (j = 0; j < N; j++)
67             _fct110 (i, j);
68 }
69
70 void _fct111 (void) {
71     int i, j;
72     for (i = 0; i < N; i++)
73         for (j = 0; j < N; j++)
74             _fct111 (i, j);
75 }
76
77 void _fct112 (void) {
78     int i, j;
79     for (i = 0; i < N; i++)
80         for (j = 0; j < N; j++)
81             _fct112 (i, j);
82 }
83
84 void _fct113 (void) {
85     int i, j;
86     for (i = 0; i < N; i++)
87         for (j = 0; j < N; j++)
88             _fct113 (i, j);
89 }
90
91 void _fct114 (void) {
92     int i, j;
93     for (i = 0; i < N; i++)
94         for (j = 0; j < N; j++)
95             _fct114 (i, j);
96 }
97
98 void _fct115 (void) {
99     int i, j;
100    for (i = 0; i < N; i++)
101        for (j = 0; j < N; j++)
102            _fct115 (i, j);
103 }

```

10



8

7

- Afficher le graphe? (A)
- Renome le graphe? (B)
- Ajouter un Noeud? (C)
- Supprimer un Noeud? (D)
- Afficher le nombre de Noeuds? (E)
- Ajouter un Arc? (F)
- Supprimer un Arc? (G)
- Afficher le nombre d'Arcs? (H)
- Matrice d'accessibilite? (I)
- Matrice de Marshall? (J)
- Matrice d'accessibilite? (K)
- Vecteur de TNoeud? (L)
- Vecteur de TArcs? (M)
- Le plus court chemin? (N)
- Quitter? (O)

5

4

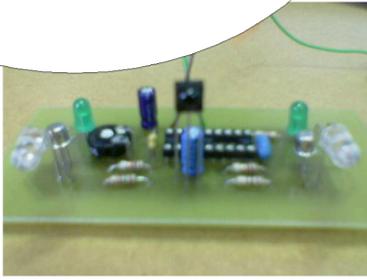
```

1 class Graf
2 {
3     private:
4         class TArct;
5         class TNoeud;
6     public:
7         TNoeud (string nom, TNoeud* svt=NULL, TArct* lien=NULL)
8             (Nom=nom;Svt=svt;Lien=lien);
9         string Nom;
10        TNoeud* Svt;
11        TArct* Lien;
12 };
13
14 class TArct{
15     friend class Graf;TNoeud;
16     public:
17         TArct (TNoeud* destination=NULL, TArct* suivant=NULL)
18             (Destination=destination; Suivant=suivant);
19         TNoeud* Destination;
20         TArct* Suivant;
21 };
22
23 public:
24 Graf (string temp="Graphe 1");
25 string NomGraphe () {return NomGraf;}
26 void ChangeNomGraphe (string);
27
28 int AjouteNoeud (string);
29 bool NoeudExiste (string);
30 int SupprimeNoeud (string);
31 int NombredeNoeuds ();

```



1



2