Function ProgProd\_Ej10\_Cmax(a As Integer, b As Integer)

Dim n As Integer

Dim m As Integer

n = 4

m = 3

Dim pij() As Integer

ReDim pij(m - 1, n - 1) As Integer

pij(0, 0) = 7

pij(0, 1) = 1

pij(0, 2) = 2

pij(0, 3) = 4

pij(1, 0) = 2

pij(1, 1) = 4

pij(1, 2) = a

pij(1, 3) = 5

pij(2, 0) = 4

pij(2, 1) = b

pij(2, 2) = 7

pij(2, 3) = 6

Dim d\_j() As Integer

ReDim d\_j(n - 1) As Integer

d\_j(0) = 15

d\_j(1) = 2 \* a

d\_j(2) = 5 \* b

d\_j(3) = 25

Dim Sec() As Integer

ReDim Sec(n - 1) As Integer

For j = 0 To n - 1

Sec(j) = j

Next j

Dim Cmax As Integer

Cmax = Fm\_Cmax(Sec, m, pij)

'Debug.Print Cmax

ProgProd\_Ej10\_Cmax = Cmax

End Function

Function ProgProd\_Ej10\_Cmax\_EDD(a As Integer, b As Integer)

Dim n As Integer

Dim m As Integer

n = 4

m = 3

Dim pij() As Integer

ReDim pij(m - 1, n - 1) As Integer

pij(0, 0) = 7

pij(0, 1) = 1

pij(0, 2) = 2

pij(0, 3) = 4

pij(1, 0) = 2

pij(1, 1) = 4

pij(1, 2) = a

pij(1, 3) = 5

pij(2, 0) = 4

pij(2, 1) = b

pij(2, 2) = 7

pij(2, 3) = 6

Dim d\_j() As Integer

ReDim d\_j(n - 1) As Integer

d\_j(0) = 15

d\_j(1) = 2 \* a

d\_j(2) = 5 \* b

d\_j(3) = 25

Dim Sec() As Integer

ReDim Sec(n - 1) As Integer

Dim djAux() As Integer

ReDim djAux(n - 1) As Integer

Call copy\_vector(d\_j, djAux)

Call sort\_vector(djAux, Sec, "A")

Dim Cmax As Integer

Cmax = Fm\_Cmax(Sec, m, pij)

'Debug.Print Cmax

ProgProd\_Ej10\_Cmax\_EDD = Cmax

End Function

Function ProgProd\_Ej10\_EjTj(a As Integer, b As Integer)

Dim n As Integer

Dim m As Integer

n = 4

m = 3

Dim pij() As Integer

ReDim pij(m - 1, n - 1) As Integer

pij(0, 0) = 7

pij(0, 1) = 1

pij(0, 2) = 2

pij(0, 3) = 4

pij(1, 0) = 2

pij(1, 1) = 4

pij(1, 2) = a

pij(1, 3) = 5

pij(2, 0) = 4

pij(2, 1) = b

pij(2, 2) = 7

pij(2, 3) = 6

Dim d\_j() As Integer

ReDim d\_j(n - 1) As Integer

d\_j(0) = 15

d\_j(1) = 2 \* a

d\_j(2) = 5 \* b

d\_j(3) = 25

Dim Sec() As Integer

ReDim Sec(n - 1) As Integer

For j = 0 To n - 1

Sec(j) = j

Next j

Dim sumEjTj As Integer

sumEjTj = Fm\_sumTjEj(Sec, m, d\_j, pij)

'Debug.Print sumEjTj

ProgProd\_Ej10\_EjTj = sumEjTj

End Function

Function ProgProd\_Ej10\_maxLj(a As Integer, b As Integer)

Dim n As Integer

Dim m As Integer

n = 4

m = 3

Dim pij() As Integer

ReDim pij(m - 1, n - 1) As Integer

pij(0, 0) = 7

pij(0, 1) = 1

pij(0, 2) = 2

pij(0, 3) = 4

pij(1, 0) = 2

pij(1, 1) = 4

pij(1, 2) = a

pij(1, 3) = 5

pij(2, 0) = 4

pij(2, 1) = b

pij(2, 2) = 7

pij(2, 3) = 6

Dim d\_j() As Integer

ReDim d\_j(n - 1) As Integer

d\_j(0) = 15

d\_j(1) = 2 \* a

d\_j(2) = 5 \* b

d\_j(3) = 25

Dim Sec() As Integer

ReDim Sec(n - 1) As Integer

For j = 0 To n - 1

Sec(j) = j

Next j

Dim maxLj As Integer

maxLj = Fm\_maxLj(Sec, m, d\_j, pij)

'Debug.Print maxLj

ProgProd\_Ej10\_maxLj = maxLj

End Function

Function ProgProd\_Ej10\_maxLj\_EDD(a As Integer, b As Integer)

Dim n As Integer

Dim m As Integer

n = 4

m = 3

Dim pij() As Integer

ReDim pij(m - 1, n - 1) As Integer

pij(0, 0) = 7

pij(0, 1) = 1

pij(0, 2) = 2

pij(0, 3) = 4

pij(1, 0) = 2

pij(1, 1) = 4

pij(1, 2) = a

pij(1, 3) = 5

pij(2, 0) = 4

pij(2, 1) = b

pij(2, 2) = 7

pij(2, 3) = 6

Dim d\_j() As Integer

ReDim d\_j(n - 1) As Integer

d\_j(0) = 15

d\_j(1) = 2 \* a

d\_j(2) = 5 \* b

d\_j(3) = 25

Dim Sec() As Integer

ReDim Sec(n - 1) As Integer

Dim djAux() As Integer

ReDim djAux(n - 1) As Integer

Call copy\_vector(d\_j, djAux)

Call sort\_vector(djAux, Sec, "A")

Call print\_vector(Sec)

Dim maxLj As Integer

maxLj = Fm\_maxLj(Sec, m, d\_j, pij)

'Debug.Print maxLj

ProgProd\_Ej10\_maxLj\_EDD = maxLj

End Function

Function Fm\_Cmax(Sec() As Integer, m As Integer, pij() As Integer) As Integer

Dim sum, i, j As Integer

Dim Cij() As Integer

ReDim Cij(m - 1, UBound(Sec)) As Integer

sum = 0

'Primera máquina

For j = 0 To UBound(Sec)

sum = sum + pij(0, Sec(j))

Cij(0, j) = sum

Next j

'Primer trabajo

sum = pij(0, Sec(0))

For i = 1 To m - 1

sum = sum + pij(i, Sec(0))

Cij(i, 0) = sum

Next i

For i = 1 To m - 1

For j = 1 To UBound(Sec)

If Cij(i, j - 1) > Cij(i - 1, j) Then

Cij(i, j) = Cij(i, j - 1) + pij(i, Sec(j))

Else

Cij(i, j) = Cij(i - 1, j) + pij(i, Sec(j))

End If

Next j

Next i

Fm\_Cmax = Cij(m - 1, UBound(Sec))

End Function

Function Fm\_maxLj(Sec() As Integer, m As Integer, dj() As Integer, pij() As Integer) As Integer

Dim sum, i, j As Integer

Dim Cij() As Integer

ReDim Cij(m - 1, UBound(Sec)) As Integer

sum = 0

'Primera máquina

For j = 0 To UBound(Sec)

sum = sum + pij(0, Sec(j))

Cij(0, j) = sum

Next j

'Primer trabajo

sum = pij(0, Sec(0))

For i = 1 To m - 1

sum = sum + pij(i, Sec(0))

Cij(i, 0) = sum

Next i

For i = 1 To m - 1

For j = 1 To UBound(Sec)

If Cij(i, j - 1) > Cij(i - 1, j) Then

Cij(i, j) = Cij(i, j - 1) + pij(i, Sec(j))

Else

Cij(i, j) = Cij(i - 1, j) + pij(i, Sec(j))

End If

Next j

Next i

'Cálculo Función objetivo

Fm\_maxLj = 0

Dim Lj As Integer

For j = 0 To UBound(Sec)

Lj = Cij(m - 1, j) - dj(Sec(j))

If Lj > Fm\_maxLj Then

Fm\_maxLj = Lj

End If

Next j

End Function

Function Fm\_sumTjEj(Sec() As Integer, m As Integer, dj() As Integer, pij() As Integer) As Integer

Dim sum, i, j As Integer

Dim Cij() As Integer

ReDim Cij(m - 1, UBound(Sec)) As Integer

sum = 0

'Primera máquina

For j = 0 To UBound(Sec)

sum = sum + pij(0, Sec(j))

Cij(0, j) = sum

Next j

'Primer trabajo

sum = pij(0, Sec(0))

For i = 1 To m - 1

sum = sum + pij(i, Sec(0))

Cij(i, 0) = sum

Next i

For i = 1 To m - 1

For j = 1 To UBound(Sec)

If Cij(i, j - 1) > Cij(i - 1, j) Then

Cij(i, j) = Cij(i, j - 1) + pij(i, Sec(j))

Else

Cij(i, j) = Cij(i - 1, j) + pij(i, Sec(j))

End If

Next j

Next i

'Cálculo Función objetivo

Fm\_sumTjEj = 0

For j = 0 To UBound(Sec)

If Cij(m - 1, j) > dj(Sec(j)) Then

Fm\_sumTjEj = Fm\_sumTjEj + Cij(m - 1, j) - dj(Sec(j))

Else

Fm\_sumTjEj = Fm\_sumTjEj - Cij(m - 1, j) + dj(Sec(j))

End If

Next j

End Function