

## Job-shop problems without preemption

- **maximal polynomially solvable:**

$J2 p_{ij} = 1; r_i C_{max}$	Timkovsky (1997) [12]
$J2 p_{ij} = 1 \sum C_i$	Kubiak & Timkovsky (1996) [5]
$J2 p_{ij} = 1 \sum U_i$	Kravchenko (1999A) [4]
$J prec; p_{ij} = 1; r_i; n = k \sum w_i U_i$	Brucker & Kraemer (1996) [1]
$J prec; r_i; n = 2 \sum w_i U_i$	Sotskov (1991) [9]
$J2 n = k \sum w_i U_i$	Brucker et al. (1997A) [2]
$J prec; p_{ij} = 1; r_i; n = k \sum w_i T_i$	Brucker & Kraemer (1996) [1]
$J prec; r_i; n = 2 \sum w_i T_i$	Sotskov (1991) [9]
$J2 n = k \sum w_i T_i$	Brucker et al. (1997A) [2]

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- **maximal pseudopolynomially solvable:**

$J prec; r_i; n = k \sum w_i U_i$	Middendorf & Timkovsky (1999) [8]
$J2 p_{ij} = 1 \sum w_i U_i$	Kravchenko (1999A) [4]
$J prec; r_i; n = k \sum w_i T_i$	Middendorf & Timkovsky (1999) [8]

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- **minimal NP-hard:**

$J3 n = 3 C_{max}$	Sotskov & Shakhlevich (1995) [10]
* $J2  C_{max}$	Lenstra & Rinnooy Kan (1979) [7]
* $J2 chains; p_{ij} = 1 C_{max}$	Timkovsky (1985) [11]
* $J3 p_{ij} = 1 C_{max}$	Lenstra & Rinnooy Kan (1979) [7]
$J2 p_{ij} = 1; r_i \sum C_i$	Timkovsky (1998) [13]
$J3 n = 3 \sum C_i$	Sotskov & Shakhlevich (1995) [10]
* $J2  \sum C_i$	Garey et al. (1976) [3]
* $J2 chains; p_{ij} = 1 \sum C_i$	Timkovsky (1998) [13]
* $J3 p_{ij} = 1 \sum C_i$	Lenstra (-) [6]
$J2 p_{ij} = 1 \sum w_i C_i$	Timkovsky (1998) [13]
* $J2 p_{ij} = 1; r_i \sum w_i C_i$	Timkovsky (1998) [13]
$J2 p_{ij} = 1; r_i \sum U_i$	Timkovsky (1998) [13]
$J2 p_{ij} = 1 \sum w_i U_i$	Kravchenko (1999A) [4]
* $J2 p_{ij} = 1 \sum w_i T_i$	Timkovsky (1998) [13]

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- **minimal open:**

$J2 chains; n = 3 C_{max}$	$J2 chains; n = 3 \sum C_i$	$J2 p_{ij} = 1; r_i L_{max}$
$J2 r_i; n = 3 C_{max}$	$J2 r_i; n = 3 \sum C_i$	$J2 p_{ij} = 1 \sum T_i$

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- **maximal open:**

$J2 p_{ij} = 1; r_i L_{max}$	$J2 p_{ij} = 1 \sum T_i$	$J2 prec; r_i; n = k \sum w_i T_i$
$J2 prec; r_i; n = k \sum w_i U_i$		

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