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MBA

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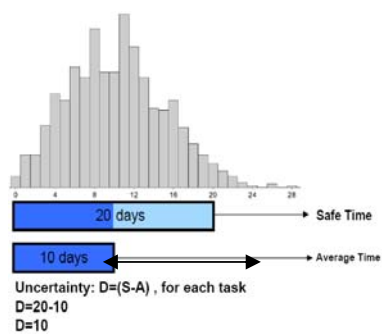
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$$Buffer\ Size = \sqrt{D_1^2 + D_2^2 + \dots + D_n^2} \quad ()$$

$D=10$ for this example

$$Buffer\ Size = \sqrt{10^2 + 10^2 + \dots + 10^2} = 28.28$$

RF

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q
i
T . q
r(i,q)
d_i
i
Rav(q)

	VAR _i
..	
	$RF(q) = (\sum_i r(i, q) \times d_i) / T \times Rav(q) \quad ()$ $r' = \max_q \{RF(q)\}$ $K = 1 + r'$ $SUM = 0$
-	i
:	:
-	$SUM = SUM + VAR_i \quad ()$ $Buffer = K \times \sqrt{SUM} \quad ()$
-	
-	
-	
:	:
[]	K
$M_i = \frac{ j -1}{k} \times \sum_i \frac{\sigma_i}{ j } \quad ()$	K
$RF(q) = (\sum_i r(i, q) \times d_i) / T \times Rav(q) \quad ()$	K
; q	:TOTPRE
$r' = \max_q \{RF(q)\} \quad ()$	()
$A = 1 + r' \quad ()$:NUMTASK
$del_i = \sigma_i \quad ()$	
$Buffersize = M_i + (A \times \sum_i del_i) \quad ()$	$K = 1 + (TOTPRE / NUMTASK) \quad ()$ $SUM = 0$
M _i	i
j	:
j . i	$SUM = SUM + VAR_i \quad ()$ $Buffer = K \times \sqrt{SUM} \quad ()$
:	k
$K = \max_i \{ j \} \quad ()$	VAR _i
$i = 1, 2, \dots, n$	
d _i	K
CCM	
[]	[]
()	

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σ_i

$$RF(q) = \left(\sum_i r(i, q) \times d_i \right) / T \times Rav(q) \quad ()$$

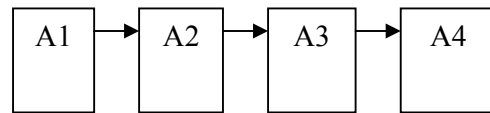
$$r' = \max_q \{ RF(q) \} \quad ()$$

$$A = 1 + r' \quad ()$$

$$BUFFER\ SIZE = (A * \sum_j del_i) \quad ()$$

P1

()



.P1

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A1

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A2 (

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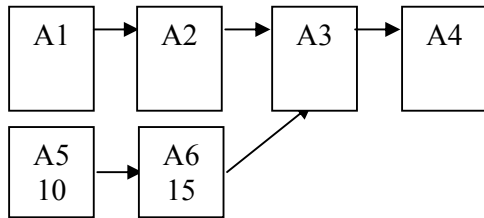
A3 (

)

A4 (

()

P2



.P2

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P1

A4

A1

A5

A6

A3

P1

A3

P2

σ

)

A3

(P1

A3

:

- M_i

$$del_i = \sigma_i \quad ()$$

$$BUFFER\ SIZE = \sum_j del_i \quad ()$$

:

$$M_i = \frac{|j|-1}{k} \times \sum_i \frac{\sigma_i}{|j|} \quad ()$$

$$Buffersize = M_i + (A \times \sum_i del_i) \quad ()$$

$E(x) = e^{\mu + \frac{1}{2}\sigma^2} \quad ()$
 $Var(x) = e^{2\mu + 2\sigma^2} (e^{\sigma^2} - 1) \quad ()$
 $Median(x) = e^{\mu} \quad ()$
 $Mode(x) = e^{\mu - \sigma^2} \quad ()$

[]

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4

(μ σ^2)

μ

%

%

X

$$P(X_i > x) = P(X_i < x) = 0.5 \quad ()$$

$$Median(x) = \exp(\mu) \quad ()$$

$$\mu = \ln(Median(x)) \quad ()$$

σ

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" σ

$$Y \sim N(\mu, \sigma)$$

$$X = \exp(Y)$$

μ σ

σ

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$\sigma > 1$

$0 < \sigma < 1$

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σ

$\sigma > 0.5$

$\sigma > 0.5$

$\mu = \text{Ln}[\text{Median}(X)]$

$0 < T_i < 2 \text{ Median}$

122.1, Median)

()

σ

122.2

<2 Median)

:

σ	P(X < 2 Median)	P(X > 2 Median)
.	.	.
.	.	.
.	.	.
.	.	.
.	.	.

$\sigma > 0/5$

%

σ

μ

P(X < 2

μ

σ

Median)

σ

:

$0 < \sigma_i < 0.5$

$$stdev_{log} = \sqrt{\log\left(1 + \left(\frac{stdev}{mean}\right)^2\right)} \quad ()$$

$$mean_{log} = \log(mean) - \frac{1}{2} \times \log\left(1 + \left(\frac{stdev}{mean}\right)^2\right) \quad ()$$

$$r1 = \text{Sqr}(-2 * \text{Log}(\text{rnd}())) * \text{Sin}(2 * \text{PI} * \text{rnd}()) \quad ()$$

$$r1 = mean_{log} + r1 * stdev_{log} \quad ()$$

$$r1 = \exp(r1) \quad ()$$

σ () ()

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()

σ

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σ

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σ=

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RM ²
C&P
RSEM
APRT

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(% .)

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(.)
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$\sigma = 0.4$ ()

(% .)

$\sigma = 0.5$:

RM ²
C&P
RSEM
APRT

%

σ

$\sigma = 0.4$:

RM ²
C&P
RSEM
APRT

$\sigma = .$ ()

(% .)

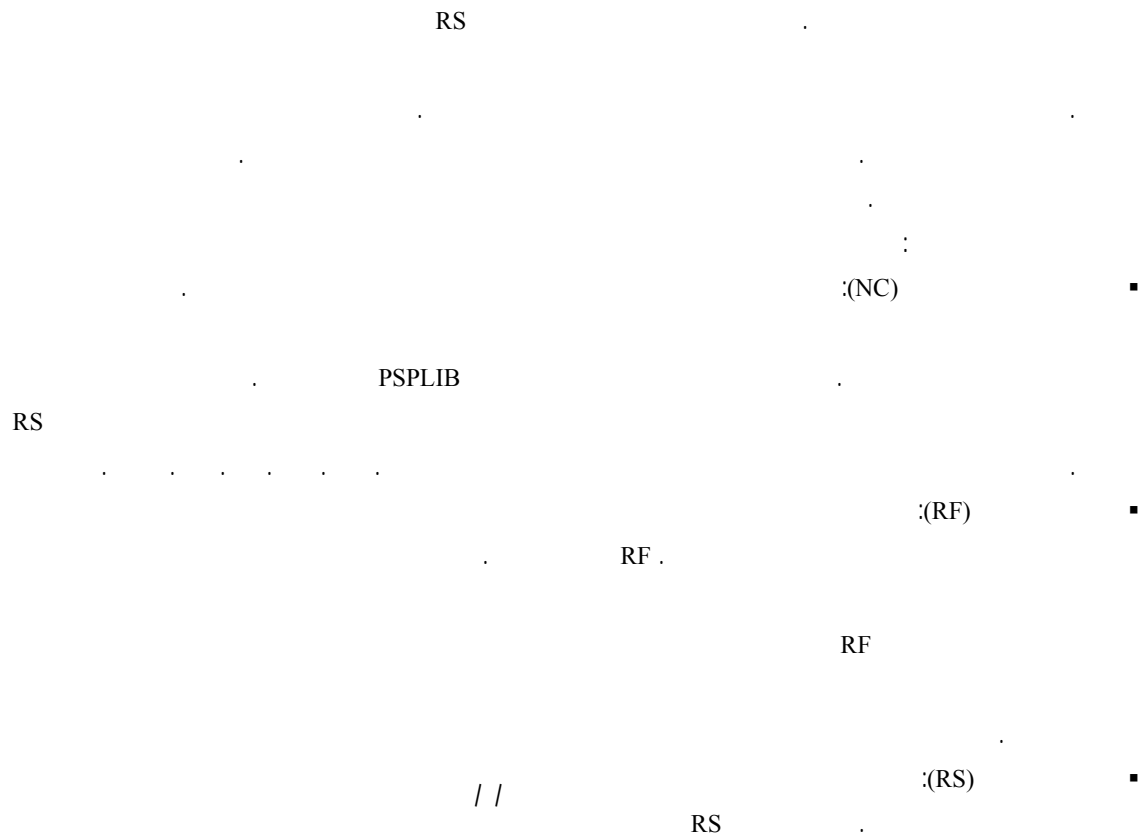
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RCPS

PSPLIB
<http://129.187.106.231/psplib/>

RCPS



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- 1 -Critical Chain Project Management
- 3 - Goldratt
- 5 - Product Development Institute (PDI)
- 7 - Cut & Past Method
- 9 - Safe Time or Safe Estimate
- 11 - Adaptive Buffer Sizing Procedures
- 13 - Adaptive Procedure With Density (APD)
- 15 - Resource & Morphology & Risk Method (RM²)
- 17 - Average Estimate
- 19 - Microsoft Project 2007
- 21 - CCPM+
- 23 - Box Muler
- 25 - High Risk Environment Method (HREM)

- 2 -Kolisch Hartman
 - 4 -Theory of Constraints
 - 6 -New Bold
 - 8 - Root Square Error Method (RSEM)
 - 10 - Average Time or Average Estimate
 - 12 - Feeding Chain
 - 14 - Patters On Data Set
 - 16 -Morphology
 - 18 - VBA
 - 20 - As Late as Possible
 - 22 - Visual Basic for Application
 - 24 - Resource Usage
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