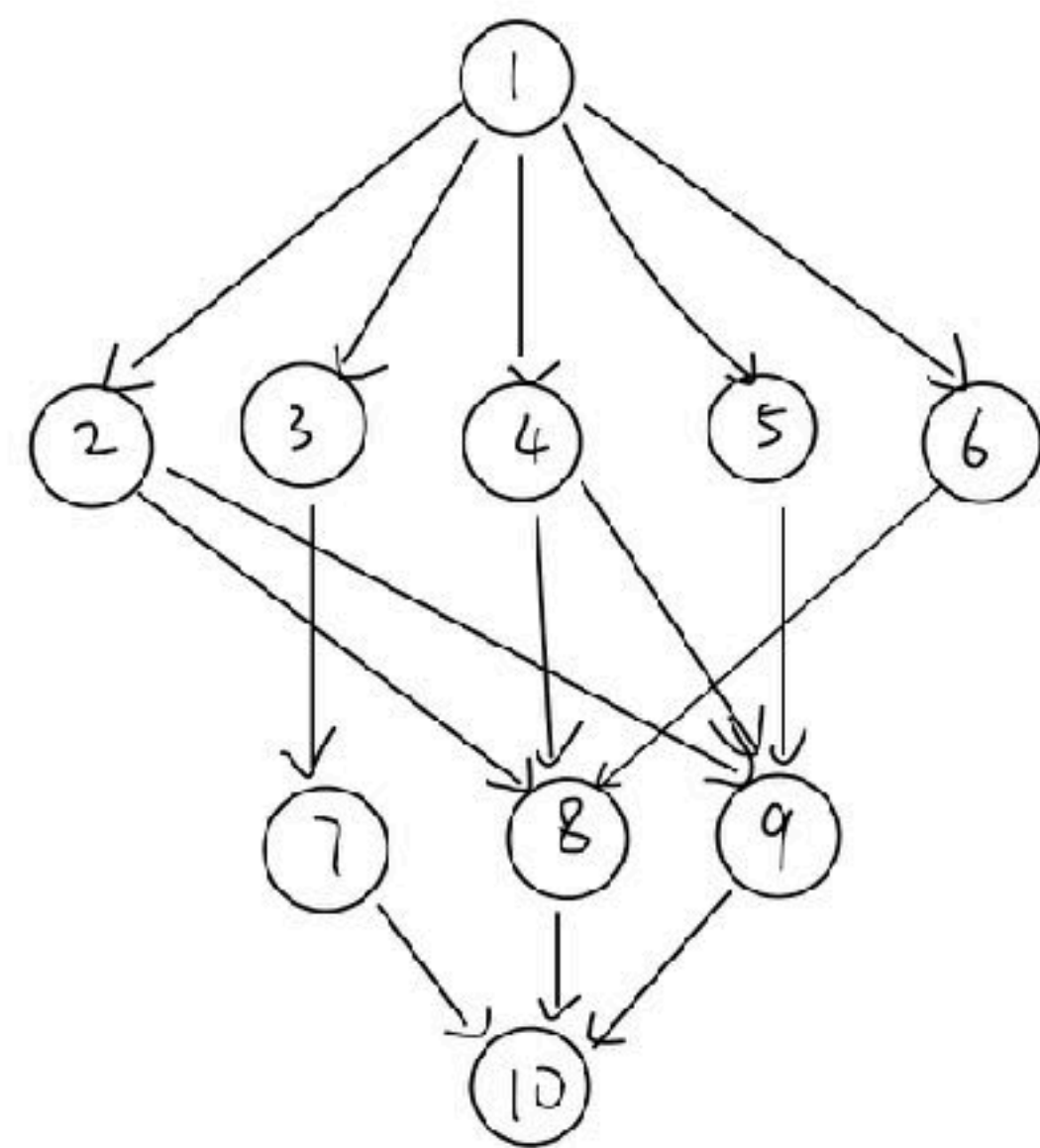


Case 1 -Input



Task	Core 1	Core 2	Core 3
1	9	7	5
2	8	6	5
3	6	5	4
4	7	5	3
5	5	4	2
6	7	6	4
7	8	5	3
8	6	4	2
9	5	3	2
10	7	4	2

$$1 \leq i \leq N, \begin{cases} T_i^s = 3 \\ T_i^c = 1 \\ T_i^r = 1 \end{cases}$$

P_1 = 1
P_2 = 2
P_3 = 4
P_ws = 0.5

Case 1 -Initialization schedule

Initialization schedule

Total time = 18

$$T_{\max} = 1.5 \times T_{\text{total}} = 27$$

Core 1 :
 Task 4 from 5 to 12
 Core 2 :
 Task 3 from 5 to 10
 Task 7 from 10 to 15
 Core 3 :
 Task 1 from 0 to 5
 Task 2 from 5 to 10
 Task 5 from 10 to 12
 Task 8 from 12 to 14
 Task 9 from 14 to 16
 Task 10 from 16 to 18

Sending:
 Task 6 from 5 to 8
 Cloud :
 Task 6 from 8 to 9
 Receiving:
 Task 6 from 9 to 10

the initail total time is: 18
 the initial total energy is: 100.5

T_{\max} : 27

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Core 1						4												
Core 2						3					7							
Core 3	1					2					5		8		9		10	
WS						6												
Cloud									6									
WR										6								

Energy computation

$$\begin{array}{l}
 \text{Core 1} \quad (4): 7 \times 1 = 7 \\
 \text{Core 2} \quad (3): 5 \times 2 = 10 \\
 \quad \quad (7): 5 \times 2 = 10 \\
 \text{Core 3} \quad (1): 5 \times 4 = 20 \\
 \quad \quad (2): 5 \times 4 = 20 \\
 \quad \quad (5): 2 \times 4 = 8 \\
 \quad \quad (8): 2 \times 4 = 8 \\
 \quad \quad (9): 2 \times 4 = 8 \\
 \quad \quad (10): 2 \times 4 = 8 \\
 \text{WS} \quad (6): 3 \times 0.5 = 1.5
 \end{array}
 \quad \left. \vphantom{\begin{array}{l} \text{Core 1} \\ \text{Core 2} \\ \text{Core 3} \\ \text{WS} \end{array}} \right\} \text{total_energy} = 100.5$$

$$\begin{array}{l}
 P_1 = 1 \\
 P_2 = 2 \\
 P_3 = 4 \\
 P_{ws} = 0.5
 \end{array}$$

Total energy = 100.5

Case 1 - Task Migration Algorithm

Low energy schedule

Total time = 26

T_max =27

T_max: 27

the improved total time is: 26
the improved total energy is: 24

Core 1 :
 Task 4 from 5 to 12
 Task 9 from 14 to 19

Core 2 :
Core 3 :
Sending:
 Task 1 from 0 to 3
 Task 5 from 3 to 6
 Task 3 from 6 to 9
 Task 2 from 9 to 12
 Task 6 from 12 to 15
 Task 8 from 15 to 18
 Task 7 from 18 to 21
 Task 10 from 21 to 24

Cloud :
 Task 1 from 3 to 4
 Task 5 from 6 to 7
 Task 3 from 9 to 10
 Task 2 from 12 to 13
 Task 6 from 15 to 16
 Task 8 from 18 to 19
 Task 7 from 21 to 22
 Task 10 from 24 to 25

Receiving:
 Task 1 from 4 to 5
 Task 5 from 7 to 8
 Task 3 from 10 to 11
 Task 2 from 13 to 14
 Task 6 from 16 to 17
 Task 8 from 19 to 20
 Task 7 from 22 to 23
 Task 10 from 25 to 26

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Core 1						4									9											
Core 2																										
Core 3																										
WS	1			5			3			2			6			8			7			10				
Cloud				1			5			3			2			6			8			7			10	
WR					1			5			3			2			6			8			7			10

Energy computation

Time x P

Core 1

④ : 7 x 1 = 7

⑨ : 5 x 1 = 5

Core 2

Core 3

WS

① ⑤ ③ ② ⑥ ⑧ ⑦ ⑩

= 8

8 x 3 x 0.5 = 12

total energy = 24

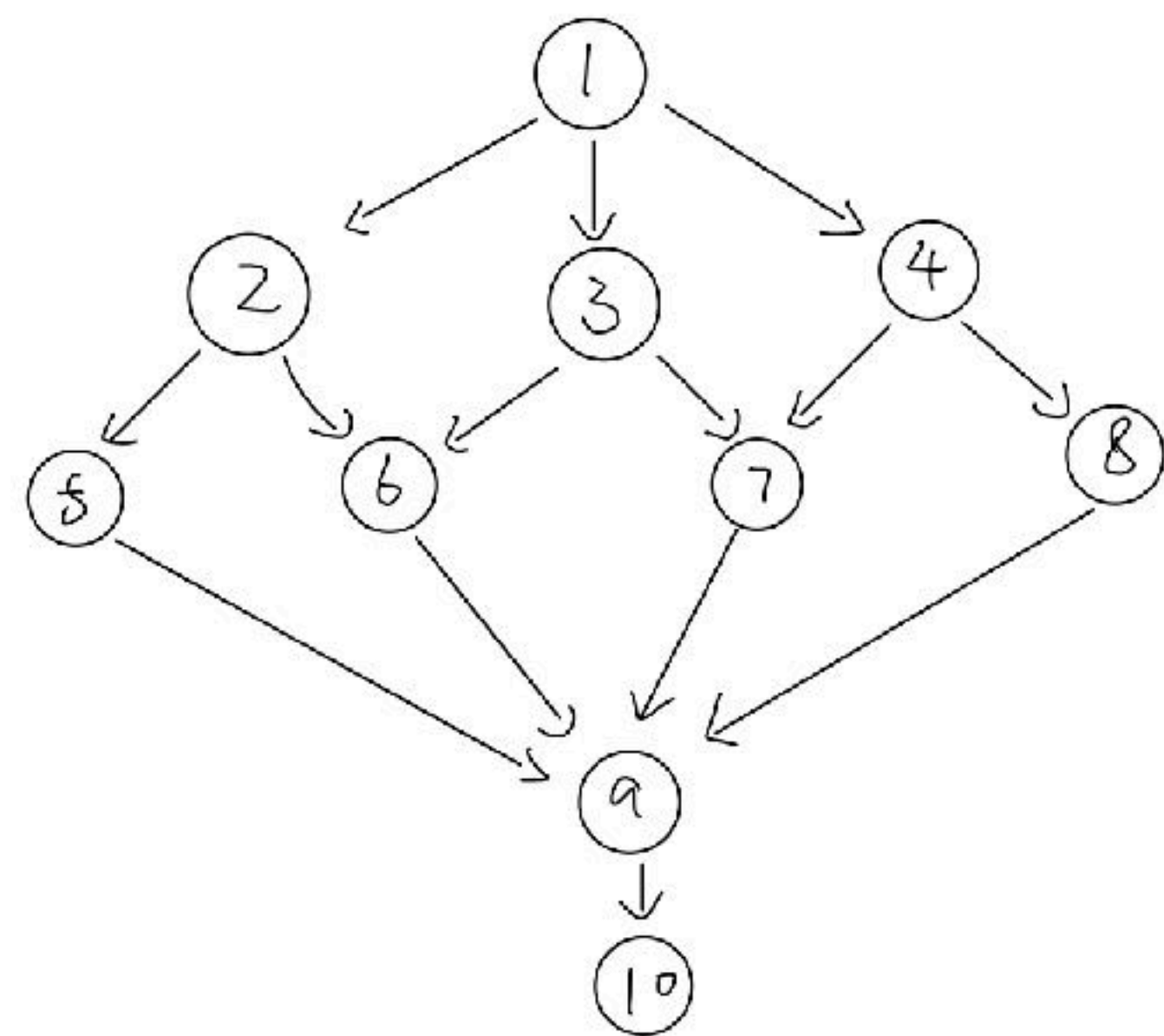
P_1 = 1
P_2 = 2
P_3 = 4
P_ws = 0.5

Total energy = 24

Case 1 -Result comparison

	Initial schedule	Migration schedule
Total time	18	26
Total energy	100.5	24

Case 2 -Input



Task	Core 1	Core 2	Core 3
1	9	7	5
2	8	6	5
3	6	5	4
4	7	5	3
5	5	4	2
6	7	6	4
7	8	5	3
8	6	4	2
9	5	3	2
10	7	4	2

$$1 \leq i \leq N, \begin{cases} T_i^s = 3 \\ T_i^c = 1 \\ T_i^r = 1 \end{cases}$$

P_1 = 1
P_2 = 2
P_3 = 4
P_ws = 0.5

Case 2 -Initialization schedule

Initialization schedule

Total time = 19

$$T_{\max} = 1.5 * T_{\text{total}} = 27$$

Core 1 :
 Task 5 from 10 to 15
 Core 2 :
 Task 3 from 5 to 10
 Task 7 from 10 to 15
 Core 3 :
 Task 1 from 0 to 5
 Task 2 from 5 to 10
 Task 6 from 10 to 14
 Task 9 from 15 to 17
 Task 10 from 17 to 19

Sending:
 Task 4 from 5 to 8
 Task 8 from 8 to 11
 Cloud :
 Task 4 from 8 to 9
 Task 8 from 11 to 12
 Receiving:
 Task 4 from 9 to 10
 Task 8 from 12 to 13

the initail total time is: 19
 the initial total energy is: 100

T_{\max} : 28.5

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Core 1											5								
Core 2						3					7								
Core 3	1					2					6					9	10		
WS						4			8										
Cloud									4			8							
WR										4			8						

Energy computation

In the Core 1

$$\text{Task 4: } 1 * 5 = 5$$

In the Core 2

$$\text{Task 2: } 2 * 5 = 10$$

$$\text{Task 6: } 2 * 5 = 10$$

In the Core 3

$$\text{Task 0: } 4 * 5 = 20$$

$$\text{Task 1: } 4 * 5 = 20$$

$$\text{Task 5: } 4 * 4 = 16$$

$$\text{Task 8: } 4 * 2 = 8$$

$$\text{Task 9: } 4 * 2 = 8$$

In the wireless sending :

$$\text{Task 3: } 0.5 * 3 = 1.5$$

$$\text{Task 7: } 0.5 * 3 = 1.5$$

$$\begin{aligned} P_1 &= 1 \\ P_2 &= 2 \\ P_3 &= 4 \\ P_{ws} &= 0.5 \end{aligned}$$

Total energy = 100

Case 2 - Task Migration Algorithm

the improved total time is: 26
the improved total energy is: 23

Low energy schedule

Total time = 26

T_max = 28.5

Core 1 :
 Task 3 from 5 to 11
 Task 5 from 11 to 16
Core 2 :
Core 3 :
Sending:
 Task 1 from 0 to 3
 Task 2 from 3 to 6
 Task 4 from 6 to 9
 Task 8 from 9 to 12
 Task 7 from 12 to 15
 Task 6 from 15 to 18
 Task 9 from 18 to 21
 Task 10 from 21 to 24

Cloud :
 Task 1 from 3 to 4
 Task 2 from 6 to 7
 Task 4 from 9 to 10
 Task 8 from 12 to 13
 Task 7 from 15 to 16
 Task 6 from 18 to 19
 Task 9 from 21 to 22
 Task 10 from 24 to 25

Receiving:
 Task 1 from 4 to 5
 Task 2 from 7 to 8
 Task 4 from 10 to 11
 Task 8 from 13 to 14
 Task 7 from 16 to 17
 Task 6 from 19 to 20
 Task 9 from 22 to 23
 Task 10 from 25 to 26

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
Core 1						3						5															
Core 2																											
Core 3																											
WS	1			2			4			8			7			6			9			10					
Cloud				1			2			4			8			7			6			9			10		
WR					1			2			4			8			7			6			9			10	

Energy computation

In the Core 1
 Task 2: 1 * 6 = 6
 Task 4: 1 * 5 = 5
In the Core 2
In the Core 3
In the wireless sending :
 Task 0: 0.5 * 3 = 1.5
 Task 1: 0.5 * 3 = 1.5
 Task 3: 0.5 * 3 = 1.5
 Task 7: 0.5 * 3 = 1.5
 Task 6: 0.5 * 3 = 1.5
 Task 5: 0.5 * 3 = 1.5
 Task 8: 0.5 * 3 = 1.5
 Task 9: 0.5 * 3 = 1.5

P_1 = 1
P_2 = 2
P_3 = 4
P_ws = 0.5

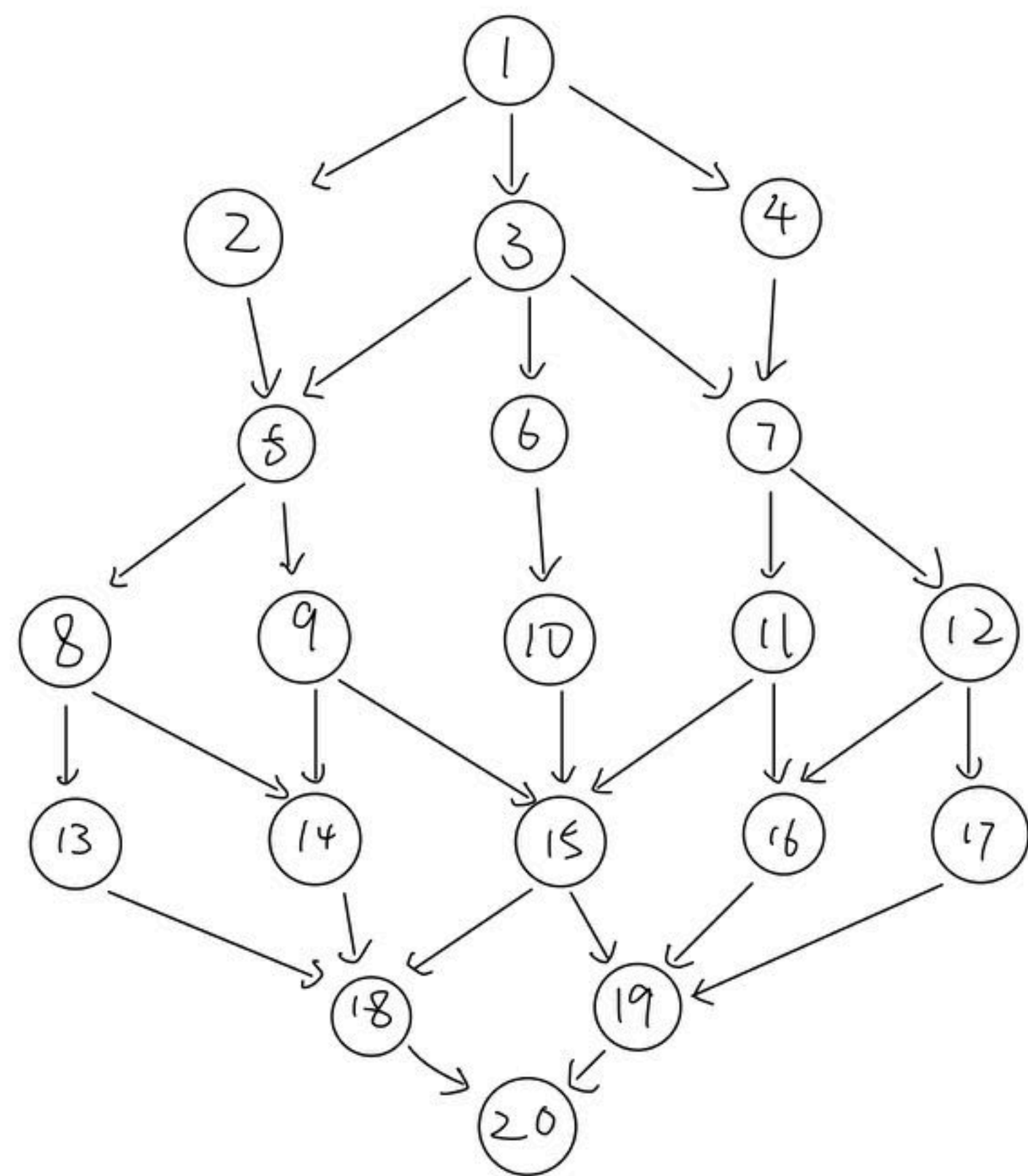
Total energy = 23

the improved total time is: 26
the improved total energy is: 23

Case 2 -Result comparison

	Initial schedule	Migration schedule
Total time	19	26
Total energy	100	23

Case 3-Input



Task	Core 1	Core 2	Core 3
1	9	7	5
2	8	6	5
3	6	5	4
4	7	5	3
5	5	4	2
6	7	6	4
7	8	5	3
8	6	4	2
9	5	3	2
10	7	4	2
11	9	7	5
12	8	6	5
13	6	5	4
14	7	5	3
15	5	4	2
16	7	6	4
17	8	5	3
18	6	4	2
19	5	3	2
20	7	4	2

$$1 \leq i \leq N, \begin{cases} T_i^s = 3 \\ T_i^c = 1 \\ T_i^r = 1 \end{cases}$$

P_1 = 1
P_2 = 2
P_3 = 4
P_ws = 0.5

Case 3 -Initialization schedule

Initialization schedule

Total time = 31

$$T_{\max} = 1.5 * T_{\text{total}} = 27$$

Core 1 :
 Task 9 from 14 to 19
 Task 15 from 20 to 25

Core 2 :
 Task 3 from 5 to 10
 Task 5 from 10 to 14
 Task 8 from 14 to 18
 Task 13 from 18 to 23
 Task 19 from 26 to 29

Core 3 :
 Task 1 from 0 to 5
 Task 4 from 5 to 8
 Task 7 from 10 to 13
 Task 11 from 13 to 18
 Task 10 from 18 to 20
 Task 14 from 20 to 23
 Task 17 from 23 to 26
 Task 18 from 26 to 28
 Task 20 from 29 to 31

Sending:
 Task 2 from 5 to 8
 Task 6 from 10 to 13
 Task 12 from 13 to 16
 Task 16 from 18 to 21

Cloud :
 Task 2 from 8 to 9
 Task 6 from 13 to 14
 Task 12 from 16 to 17
 Task 16 from 21 to 22

Receiving:
 Task 2 from 9 to 10
 Task 6 from 14 to 15
 Task 12 from 17 to 18
 Task 16 from 22 to 23

the initail total time is: 31
 the initial total energy is: 170

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Core 1															9						5													
Core 2					3						5					8				13								19						
Core 3	1					4					7			11					10		14			17			18		20					
WS						2					6			12			16																	
Cloud									2					6			12			16														
WR										2					6			12			16													

Energy computation

In the Core 1
 Task 8: 1 * 5 = 5
 Task 14: 1 * 5 = 5

In the Core 2
 Task 2: 2 * 5 = 10
 Task 4: 2 * 4 = 8
 Task 7: 2 * 4 = 8
 Task 12: 2 * 5 = 10
 Task 18: 2 * 3 = 6

In the Core 3
 Task 0: 4 * 5 = 20
 Task 3: 4 * 3 = 12
 Task 6: 4 * 3 = 12
 Task 10: 4 * 5 = 20
 Task 9: 4 * 2 = 8
 Task 13: 4 * 3 = 12
 Task 16: 4 * 3 = 12
 Task 17: 4 * 2 = 8
 Task 19: 4 * 2 = 8

In the wireless sending :
 Task 1: 0.5 * 3 = 1.5
 Task 5: 0.5 * 3 = 1.5
 Task 11: 0.5 * 3 = 1.5
 Task 15: 0.5 * 3 = 1.5

P₁ = 1
 P₂ = 2
 P₃ = 4
 P_{ws} = 0.5

Total energy = 170

Case 3- Task Migration Algorithm

Core 1 :
Task 5 from 14 to 19
Task 8 from 19 to 25
Task 9 from 25 to 30
Task 15 from 30 to 35
Task 19 from 36 to 41

Core 2 :
Core 3 :
Task 10 from 20 to 22

Sending:
Task 1 from 0 to 3
Task 3 from 3 to 6
Task 4 from 6 to 9
Task 2 from 9 to 12
Task 7 from 12 to 15
Task 6 from 15 to 18
Task 11 from 18 to 21
Task 12 from 21 to 24
Task 13 from 25 to 28
Task 17 from 28 to 31
Task 16 from 31 to 34
Task 14 from 34 to 37
Task 18 from 37 to 40
Task 20 from 41 to 44

Cloud :
Task 1 from 3 to 4
Task 3 from 6 to 7
Task 4 from 9 to 10
Task 2 from 12 to 13
Task 7 from 15 to 16
Task 6 from 18 to 19
Task 11 from 21 to 22
Task 12 from 24 to 25
Task 13 from 28 to 29
Task 17 from 31 to 32
Task 16 from 34 to 35
Task 14 from 37 to 38
Task 18 from 40 to 41
Task 20 from 44 to 45

Receiving:
Task 1 from 4 to 5
Task 3 from 7 to 8
Task 4 from 10 to 11
Task 2 from 13 to 14
Task 7 from 16 to 17
Task 6 from 19 to 20
Task 11 from 22 to 23
Task 12 from 25 to 26
Task 13 from 29 to 30
Task 17 from 32 to 33
Task 16 from 35 to 36
Task 14 from 38 to 39
Task 18 from 41 to 42
Task 20 from 45 to 46

Low energy schedule

Total time = 46

T_max = 46.5

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	
Core 1															5				8					9				15					19														
Core 2																																															
Core 3																					10																										
WS	1			3			4			2			7			6			11			12				13			17			16			14			18				20					
Cloud				1			3			4			2			7			6			11			12				13			17			16				14			18				20	
WR					1			3			4			2			7			6			11			12				13			17			16				14			18				20

Energy computation

In the Core 1

Task 4: 1 * 5 = 5
Task 7: 1 * 6 = 6
Task 8: 1 * 5 = 5
Task 14: 1 * 5 = 5
Task 18: 1 * 5 = 5

In the Core 2

In the Core 3

Task 9: 4 * 2 = 8

In the wireless sending :

Task 0: 0.5 * 3 = 1.5
Task 2: 0.5 * 3 = 1.5
Task 3: 0.5 * 3 = 1.5
Task 1: 0.5 * 3 = 1.5
Task 6: 0.5 * 3 = 1.5
Task 5: 0.5 * 3 = 1.5
Task 10: 0.5 * 3 = 1.5
Task 11: 0.5 * 3 = 1.5
Task 12: 0.5 * 3 = 1.5
Task 16: 0.5 * 3 = 1.5
Task 15: 0.5 * 3 = 1.5
Task 13: 0.5 * 3 = 1.5
Task 17: 0.5 * 3 = 1.5
Task 19: 0.5 * 3 = 1.5

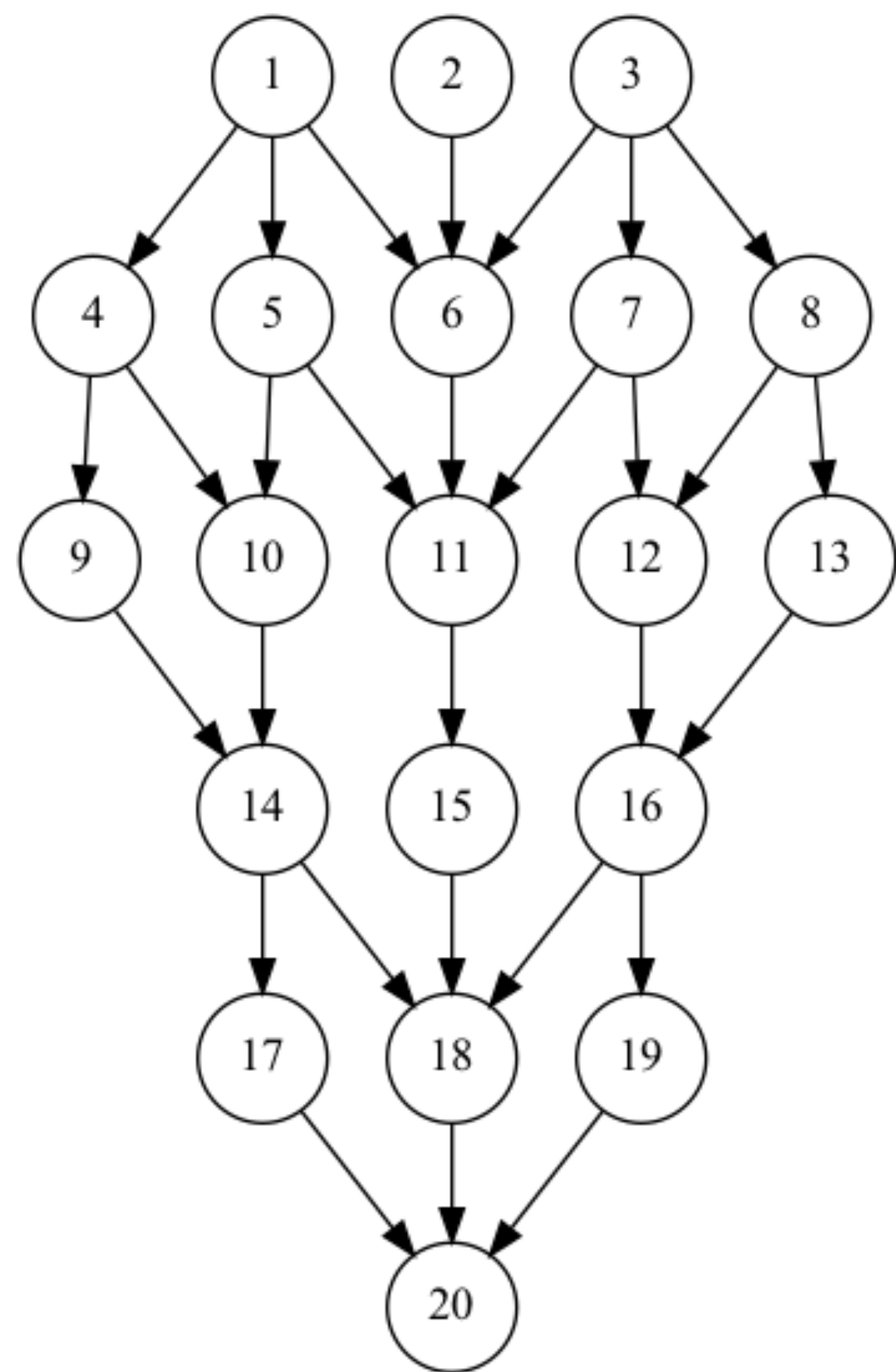
P_1 = 1
P_2 = 2
P_3 = 4
P_ws = 0.5

Total energy = 55

Case 3 -Result comparison

	Initial schedule	Migration schedule
Total time	31	46
Total energy	170	55

Case 4-Input



Task	Core 1	Core 2	Core 3
1	9	7	5
2	8	6	5
3	6	5	4
4	7	5	3
5	5	4	2
6	7	6	4
7	8	5	3
8	6	4	2
9	5	3	2
10	7	4	2
11	9	7	5
12	8	6	5
13	6	5	4
14	7	5	3
15	5	4	2
16	7	6	4
17	8	5	3
18	6	4	2
19	5	3	2
20	7	4	2

$$1 \leq i \leq N, \begin{cases} T_i^s = 3 \\ T_i^c = 1 \\ T_i^r = 1 \end{cases}$$

P_1 = 1
P_2 = 2
P_3 = 4
P_ws = 0.5

Case 4 -Initialization schedule

Initialization schedule

Core 1 :
Task 5 from 5 to 10
Task 13 from 10 to 16

Core 2 :
Task 3 from 0 to 5
Task 8 from 5 to 9
Task 11 from 10 to 17
Task 17 from 18 to 23

Core 3 :
Task 1 from 0 to 5
Task 7 from 5 to 8
Task 4 from 8 to 11
Task 10 from 11 to 13
Task 9 from 13 to 15
Task 14 from 15 to 18
Task 15 from 18 to 20
Task 18 from 21 to 23
Task 20 from 24 to 26

Sending:
Task 2 from 0 to 3
Task 6 from 5 to 8
Task 12 from 9 to 12
Task 16 from 16 to 19
Task 19 from 19 to 22

Cloud :
Task 2 from 3 to 4
Task 6 from 8 to 9
Task 12 from 12 to 13
Task 16 from 19 to 20
Task 19 from 22 to 23

Receiving:
Task 2 from 4 to 5
Task 6 from 9 to 10
Task 12 from 13 to 14
Task 16 from 20 to 21
Task 19 from 23 to 24

the initail total time is: 26
the initial total energy is: 156.5

Total time = 26

$T_{max} = 1.5 * T_{total}$
 $= 39$

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Core 1						5					13															
Core 2	3					8					11								17							
Core 3	1					7			4			10		9		14			15			18			20	
WS	2					6				12							16			19						
Cloud				2					6				12							16			19			
WR					2					6				12							16			19		

Energy computation

In the Core 1
Task 4: 1 * 5 = 5
Task 12: 1 * 6 = 6

In the Core 2
Task 2: 2 * 5 = 10
Task 7: 2 * 4 = 8
Task 10: 2 * 7 = 14
Task 16: 2 * 5 = 10

In the Core 3
Task 0: 4 * 5 = 20
Task 6: 4 * 3 = 12
Task 3: 4 * 3 = 12
Task 9: 4 * 2 = 8
Task 8: 4 * 2 = 8
Task 13: 4 * 3 = 12
Task 14: 4 * 2 = 8
Task 17: 4 * 2 = 8
Task 19: 4 * 2 = 8

In the wireless sending :
Task 1: 0.5 * 3 = 1.5
Task 5: 0.5 * 3 = 1.5
Task 11: 0.5 * 3 = 1.5
Task 15: 0.5 * 3 = 1.5
Task 18: 0.5 * 3 = 1.5

$P_1 = 1$
 $P_2 = 2$
 $P_3 = 4$
 $P_{ws} = 0.5$

Total energy = 156.5

Case 4- Task Migration Algorithm

Core 1 :
Task 3 from 0 to 6
Task 8 from 6 to 12
Task 5 from 12 to 17
Task 13 from 17 to 23
Task 15 from 23 to 28

Core 2 :
Task 9 from 8 to 11
Task 17 from 26 to 31

Core 3 :
Task 10 from 17 to 19

Sending:

Task 1 from 0 to 3
Task 4 from 3 to 6
Task 2 from 6 to 9
Task 7 from 9 to 12
Task 6 from 12 to 15
Task 12 from 15 to 18
Task 11 from 18 to 21
Task 14 from 21 to 24
Task 16 from 24 to 27
Task 19 from 27 to 30
Task 18 from 30 to 33
Task 20 from 33 to 36

Cloud :
Task 1 from 3 to 4
Task 4 from 6 to 7
Task 2 from 9 to 10
Task 7 from 12 to 13
Task 6 from 15 to 16
Task 12 from 18 to 19
Task 11 from 21 to 22
Task 14 from 24 to 25
Task 16 from 27 to 28
Task 19 from 30 to 31
Task 18 from 33 to 34
Task 20 from 36 to 37

Receiving:

Task 1 from 4 to 5
Task 4 from 7 to 8
Task 2 from 10 to 11
Task 7 from 13 to 14
Task 6 from 16 to 17
Task 12 from 19 to 20
Task 11 from 22 to 23
Task 14 from 25 to 26
Task 16 from 28 to 29
Task 19 from 31 to 32
Task 18 from 34 to 35
Task 20 from 37 to 38

Low energy schedule

Total time = 38

T_max = 39

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38		
Core 1	3						8						5						13						15															
Core 2									9																		17													
Core 3																	10																							
WS	1			4			2			7			6			12			11			14			16			19			18			20						
Cloud				1			4			2			7			6			12			11			14			16			19			18			20			
WR					1			4			2			7			6			12			11			14			16			19			18			20		

Low energy schedule

Total time = 38

T_max = 39

Energy computation

In the Core 1

Task 2: 1 * 6 = 6
Task 7: 1 * 6 = 6
Task 4: 1 * 5 = 5
Task 12: 1 * 6 = 6
Task 14: 1 * 5 = 5

In the Core 2

Task 8: 2 * 3 = 6
Task 16: 2 * 5 = 10

In the Core 3

Task 9: 4 * 2 = 8

In the wireless sending :

Task 0: 0.5 * 3 = 1.5
Task 3: 0.5 * 3 = 1.5
Task 1: 0.5 * 3 = 1.5
Task 6: 0.5 * 3 = 1.5
Task 5: 0.5 * 3 = 1.5
Task 11: 0.5 * 3 = 1.5
Task 10: 0.5 * 3 = 1.5
Task 13: 0.5 * 3 = 1.5
Task 15: 0.5 * 3 = 1.5
Task 18: 0.5 * 3 = 1.5
Task 17: 0.5 * 3 = 1.5
Task 19: 0.5 * 3 = 1.5

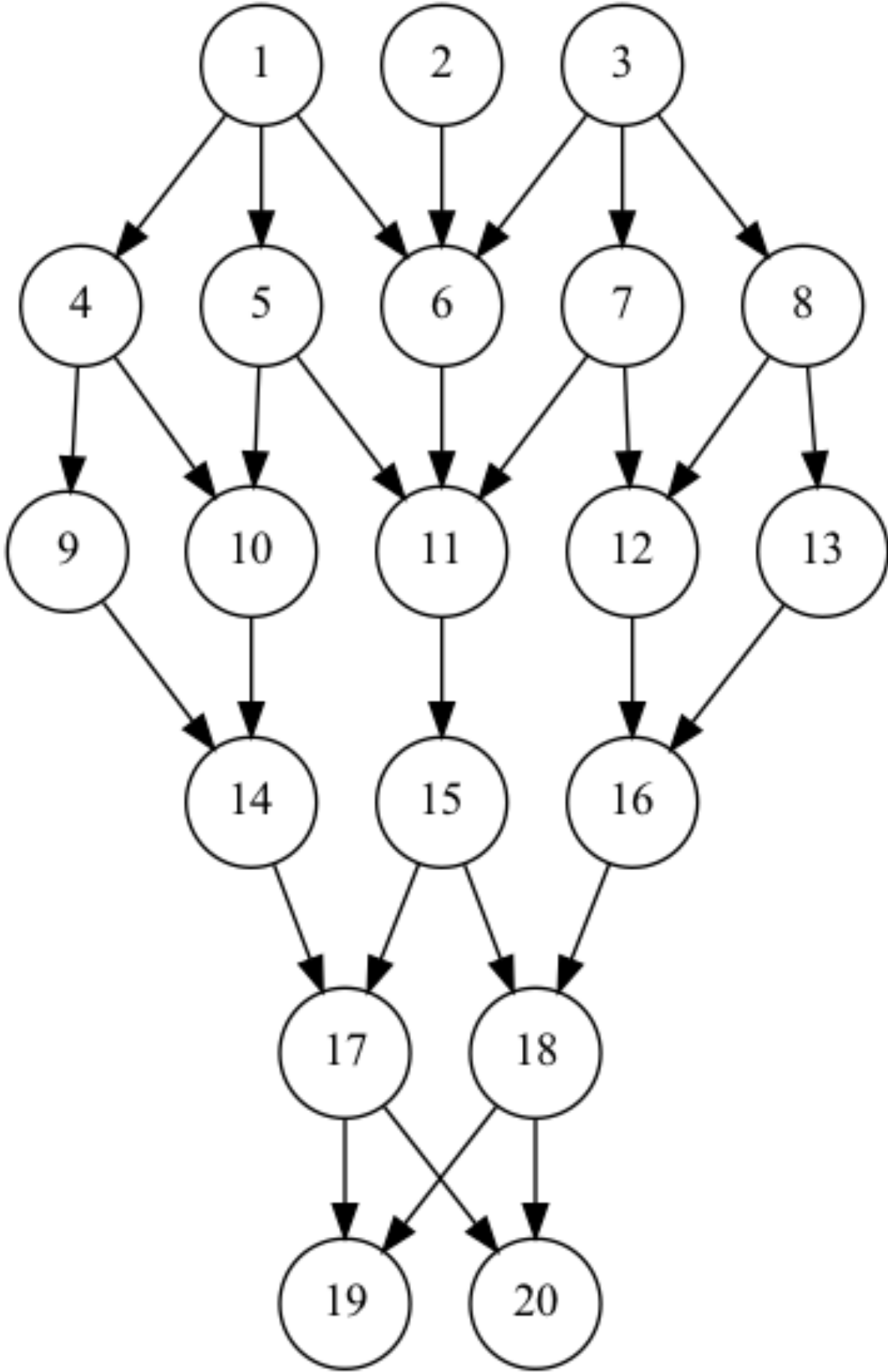
P_1 = 1
P_2 = 2
P_3 = 4
P_ws = 0.5

Total energy =70

Case 4 -Result comparison

	Initial schedule	Migration schedule
Total time	26	38
Total energy	156.5	70

Case 5-Input



Task	Core 1	Core 2	Core 3
1	9	7	5
2	8	6	5
3	6	5	4
4	7	5	3
5	5	4	2
6	7	6	4
7	8	5	3
8	6	4	2
9	5	3	2
10	7	4	2
11	9	7	5
12	8	6	5
13	6	5	4
14	7	5	3
15	5	4	2
16	7	6	4
17	8	5	3
18	6	4	2
19	5	3	2
20	7	4	2

$$1 \leq i \leq N, \begin{cases} T_i^s = 3 \\ T_i^c = 1 \\ T_i^r = 1 \end{cases}$$

P_1 = 1
P_2 = 2
P_3 = 4
P_ws = 0.5

Case 5 -Initialization schedule

Core 1 :
 Task 4 from 5 to 12
 Task 13 from 12 to 18

Core 2 :
 Task 3 from 0 to 5
 Task 7 from 5 to 10
 Task 10 from 12 to 16
 Task 15 from 16 to 20
 Task 19 from 26 to 29

Core 3 :
 Task 1 from 0 to 5
 Task 6 from 5 to 9
 Task 5 from 9 to 11
 Task 11 from 11 to 16
 Task 9 from 16 to 18
 Task 14 from 18 to 21
 Task 17 from 21 to 24
 Task 18 from 24 to 26
 Task 20 from 26 to 28

Sending:
 Task 2 from 0 to 3
 Task 8 from 5 to 8
 Task 12 from 10 to 13
 Task 16 from 18 to 21

Cloud :
 Task 2 from 3 to 4
 Task 8 from 8 to 9
 Task 12 from 13 to 14
 Task 16 from 21 to 22

Receiving:
 Task 2 from 4 to 5
 Task 8 from 9 to 10
 Task 12 from 14 to 15
 Task 16 from 22 to 23

the initail total time is: 29
 the initial total energy is: 173

T_{max}: 43.5

Initialization schedule

Total time = 29

$T_{\max} = 1.5 \cdot T_{\text{total}}$
 =43.5

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29			
Core 1						4							13																			
Core 2	3					7							10				15												19			
Core 3	1					6				5		11					9		14			17			18		20					
WS	2					8				12									16													
Cloud				2					2				12									16										
WR					2					2				12									16									

Energy computation

In the Core 1
 Task 3: 1 * 7 = 7
 Task 12: 1 * 6 = 6
 In the Core 2
 Task 2: 2 * 5 = 10
 Task 6: 2 * 5 = 10
 Task 9: 2 * 4 = 8
 Task 14: 2 * 4 = 8
 Task 18: 2 * 3 = 6
 In the Core 3
 Task 0: 4 * 5 = 20
 Task 5: 4 * 4 = 16
 Task 4: 4 * 2 = 8
 Task 10: 4 * 5 = 20
 Task 8: 4 * 2 = 8
 Task 13: 4 * 3 = 12
 Task 16: 4 * 3 = 12
 Task 17: 4 * 2 = 8
 Task 19: 4 * 2 = 8

In the wireless sending :
 Task 1: 0.5 * 3 = 1.5
 Task 7: 0.5 * 3 = 1.5
 Task 11: 0.5 * 3 = 1.5
 Task 15: 0.5 * 3 = 1.5

P₁ = 1
 P₂ = 2
 P₃ = 4
 P_{ws} = 0.5

Total energy = 173

Case 5- Task Migration Algorithm

the improved total time is: 43
the improved total energy is: 62.5

Low energy schedule

Total time = 43

T_{max} = 43.5

Core 1 :
Task 3 from 0 to 6
Task 4 from 6 to 13
Task 9 from 13 to 18
Task 13 from 18 to 24
Task 15 from 24 to 29
Core 2 :
Task 19 from 40 to 43
Core 3 :
Task 5 from 5 to 7
Sending:
Task 1 from 0 to 3
Task 2 from 3 to 6
Task 7 from 6 to 9
Task 6 from 9 to 12
Task 8 from 12 to 15
Task 10 from 15 to 18
Task 11 from 18 to 21
Task 12 from 21 to 24
Task 14 from 24 to 27
Task 17 from 29 to 32
Task 16 from 32 to 35
Task 18 from 35 to 38
Task 20 from 38 to 41

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43			
Core 1	3					4								9						13						15																				
Core 2																																								19						
Core 3						5																																								
WS	1			2			7			6			8			10			11			12			14					17			16			18			20							
Cloud				1			2			7			6			8			10			11			12			14					17			16			18			20				
WR					1			2			7			6			8			10			11			12			14					17			16			18			20			

Cloud :
Task 1 from 3 to 4
Task 2 from 6 to 7
Task 7 from 9 to 10
Task 6 from 12 to 13
Task 8 from 15 to 16
Task 10 from 18 to 19
Task 11 from 21 to 22
Task 12 from 24 to 25
Task 14 from 27 to 28
Task 17 from 32 to 33
Task 16 from 35 to 36
Task 18 from 38 to 39
Task 20 from 41 to 42

Receiving:
Task 1 from 4 to 5
Task 2 from 7 to 8
Task 7 from 10 to 11
Task 6 from 13 to 14
Task 8 from 16 to 17
Task 10 from 19 to 20
Task 11 from 22 to 23
Task 12 from 25 to 26
Task 14 from 28 to 29
Task 17 from 33 to 34
Task 16 from 36 to 37
Task 18 from 39 to 40
Task 20 from 42 to 43

Energy computation

In the Core 1

Task 2: 1 * 6 = 6
Task 3: 1 * 7 = 7
Task 8: 1 * 5 = 5
Task 12: 1 * 6 = 6
Task 14: 1 * 5 = 5

In the Core 2

Task 18: 2 * 3 = 6

In the Core 3

Task 4: 4 * 2 = 8

In the wireless sending :

Task 0: 0.5 * 3 = 1.5
Task 1: 0.5 * 3 = 1.5
Task 6: 0.5 * 3 = 1.5
Task 5: 0.5 * 3 = 1.5
Task 7: 0.5 * 3 = 1.5
Task 9: 0.5 * 3 = 1.5
Task 10: 0.5 * 3 = 1.5
Task 11: 0.5 * 3 = 1.5
Task 13: 0.5 * 3 = 1.5
Task 16: 0.5 * 3 = 1.5
Task 15: 0.5 * 3 = 1.5
Task 17: 0.5 * 3 = 1.5
Task 19: 0.5 * 3 = 1.5

P₁ = 1
P₂ = 2
P₃ = 4
P_{ws} = 0.5

Total energy = 62.5

Case 5-Result comparison

	Initial schedule	Migration schedule
Total time	31	43
Total energy	173	62.5