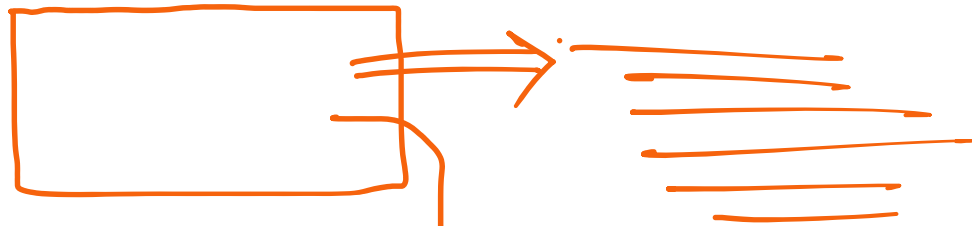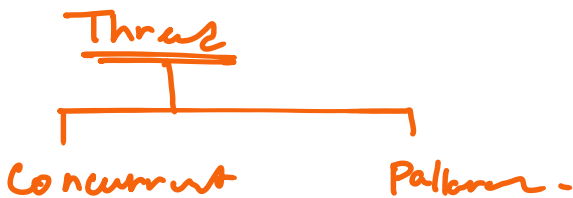# Thread
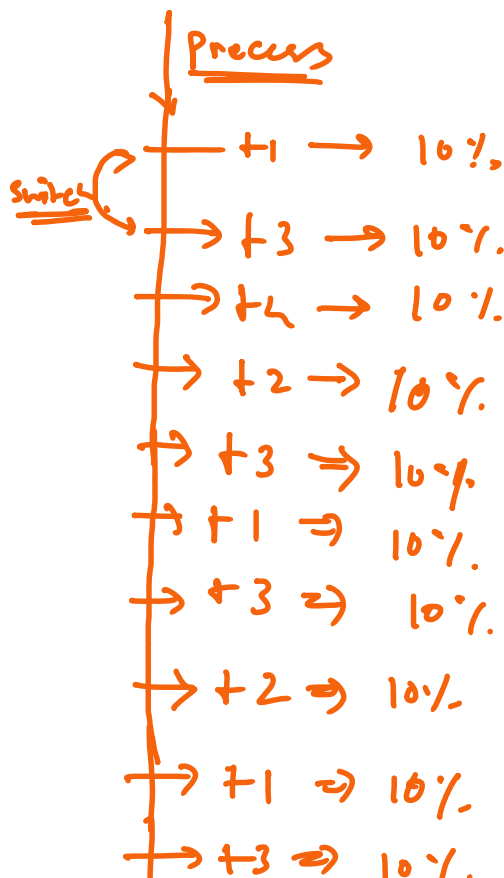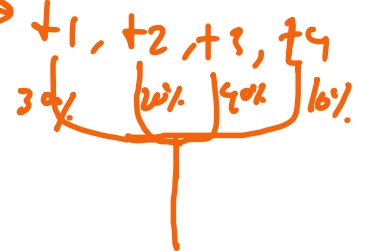
CPU $\Rightarrow$ Processors $\longrightarrow$ dual Core,
Single Core,
Quad core

$\Rightarrow$ Light Process are Called threads.

Thread
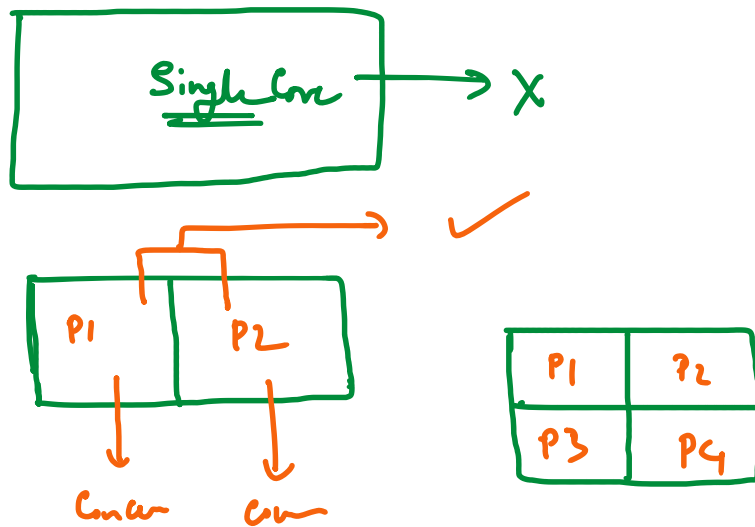
Concurrent   Parllar.

Task

1 min

t1, t2, t3, t4
3% [10% [40%]6%

Process

Switch

$\vdash$ t1 $\longrightarrow$ 10%.

$\rightarrow$ t3 $\longrightarrow$ 10%.

$\rightarrow$ t4 $\longrightarrow$ 10%.

$\rightarrow$ t2 $\longrightarrow$ 10%.

$\rightarrow$ t3 $\Rightarrow$ 10%.

$\rightarrow$ t1 $\Rightarrow$ 10%.

$\rightarrow$ t3 $\Rightarrow$ 10%.

$\rightarrow$ t2 $\Rightarrow$ 10%.

$\rightarrow$ t1 $\Rightarrow$ 10%.

$\rightarrow$ t3 $\Rightarrow$ 10%.

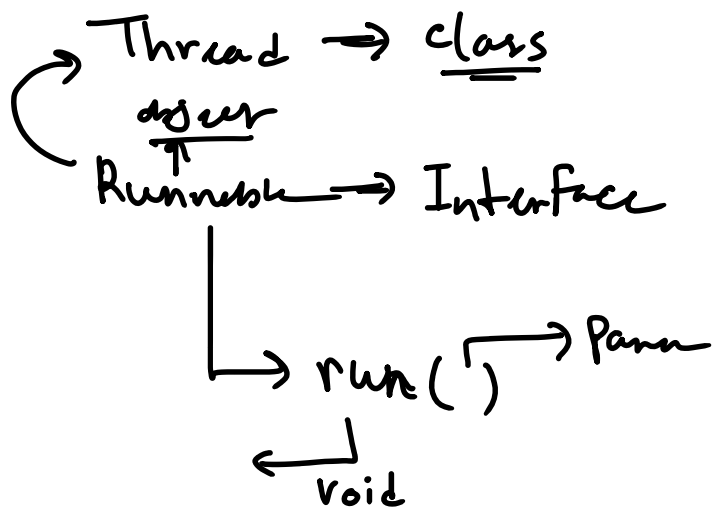## Context Switch

t4 $\Rightarrow$ 10% 0

t1 $\Rightarrow$ 30% 20%, 10%

t2 $\Rightarrow$ 20% 10% 0

t3 $\Rightarrow$ 40% 30% 20% 10%.
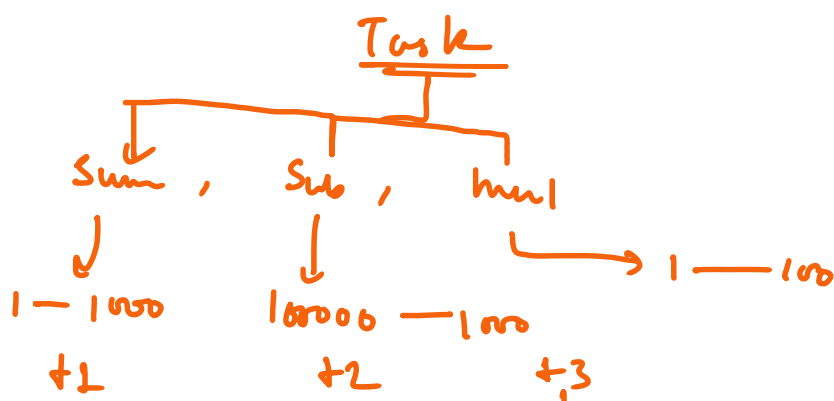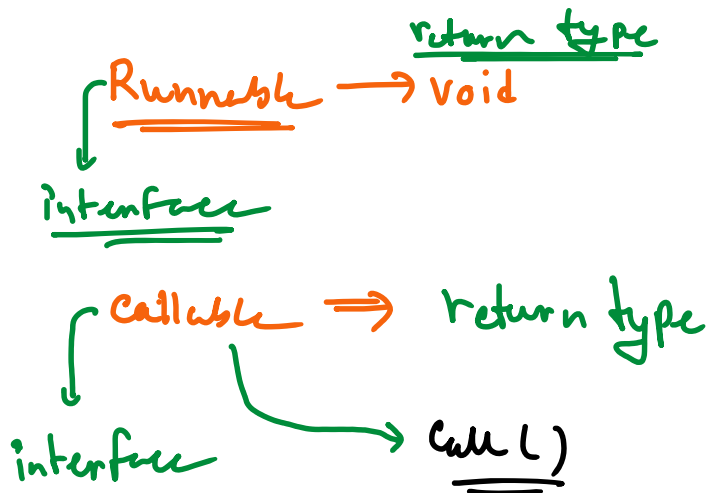
$T1 \Rightarrow 10\%$.

$\longmapsto T3 \Rightarrow 10\%$.

Single Core $\longrightarrow$ X

P1 | P2

$\downarrow$ Concar

$\downarrow$ Con

P1	P2
P3	P4

How to Create Threads?

Thread $\longrightarrow$ class

after

Runnable $\longrightarrow$ Interface

$\longrightarrow$ run() $\longrightarrow$ Param

$\longleftarrow$ Void

t1. Start()J

t1. run();

Start Program

→ main ( ) ✓

├ t1 ✓
├ t2 ✓
├ t3 ✓
└ t4 ✓

Program
end

return type
Runnable ⟶ void

Interface

Callable ⟹ return type

interface ⟶ Call ( )

Task

Sum , Sub , mul

1 — 1000   100000 — 1000   1 — 100
t1   t2   t3

1000   100000 — 1000

t1   t2   t3

Print values $\Rightarrow$ callable