

INTRODUCTION TO OPERATING SYSTEMS

1. SEMAFORY BINARNE I UOGÓLNIONE (PRODUCENT – KONSUMENT)

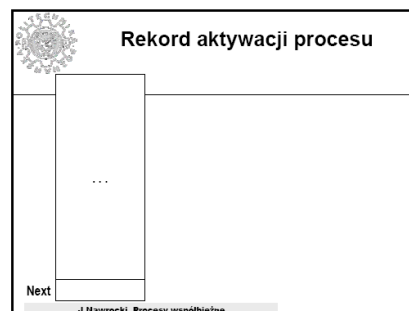
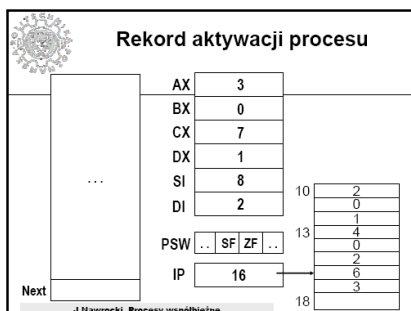
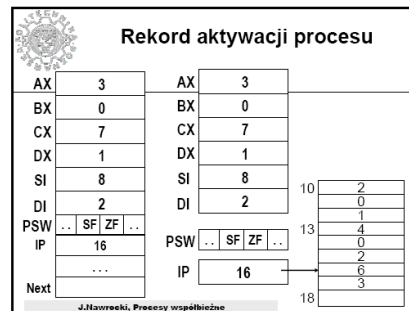
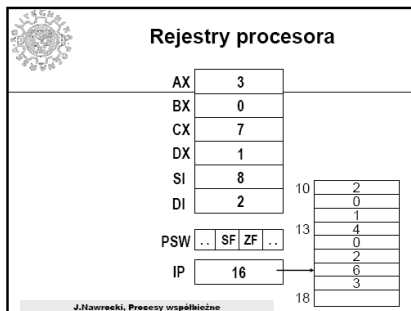
Producent

```
While true do
  begin
    produkuj_elem;
    down (empty);
    down (mutex);
    wstaw_elem;
    up (mutex);
    up (full)
  end;
```

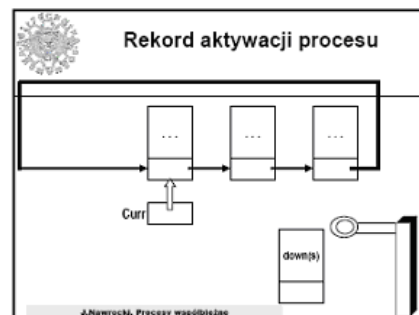
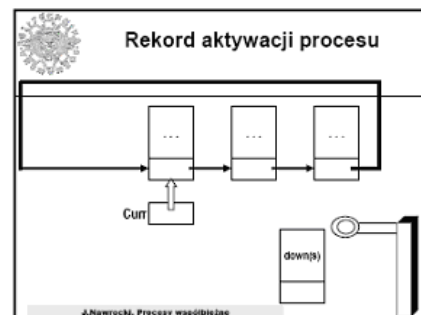
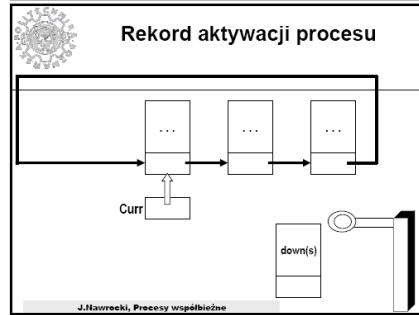
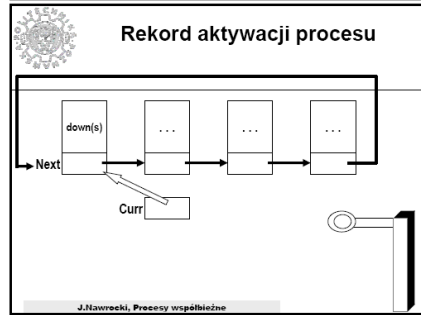
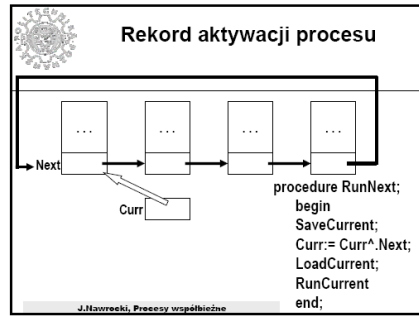
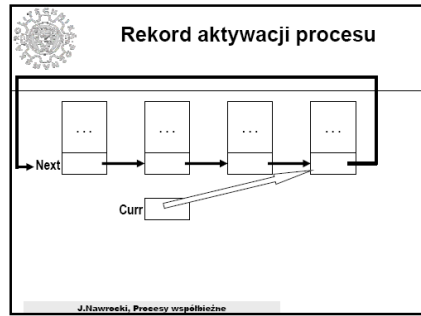
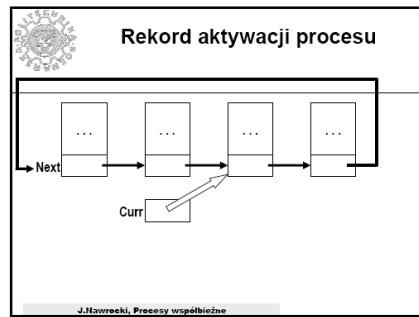
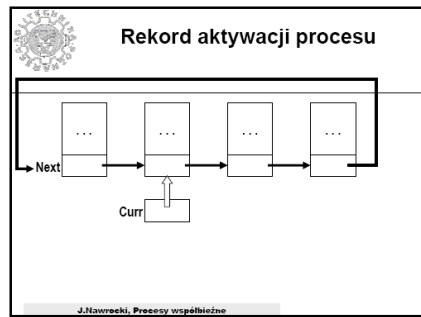
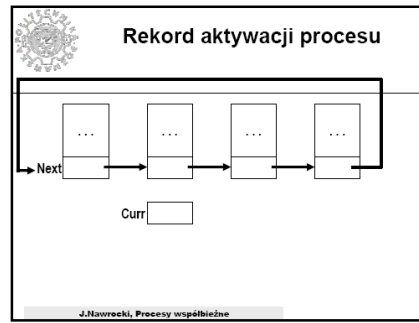
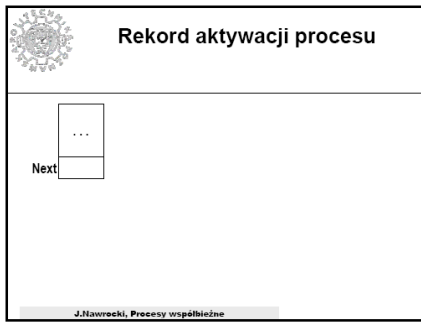
Konsument

```
While true do
  begin
    down (full);
    down (mutex);
    pobierz_elem;
    up (mutex);
    up (empty);
    konsumuj_elm
  end;
```

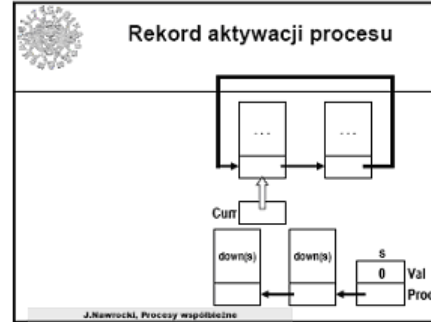
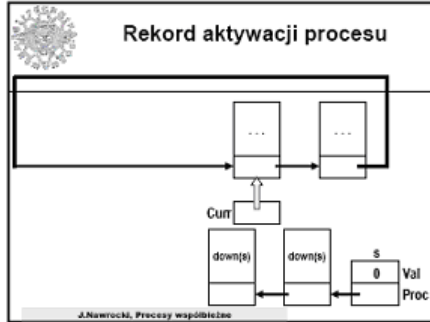
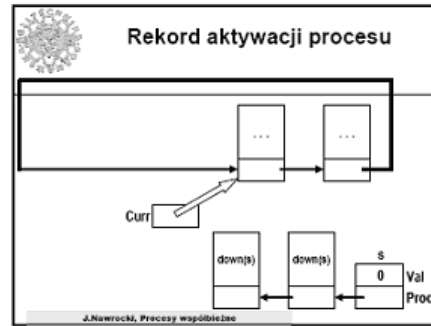
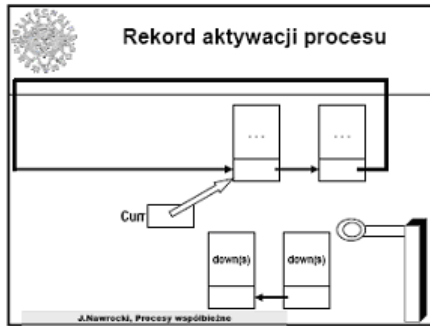
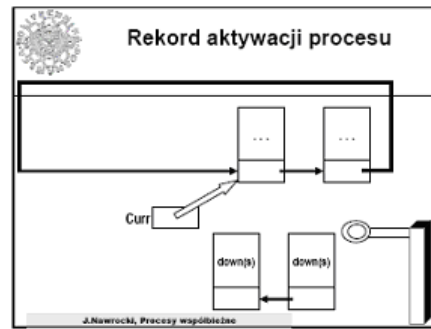
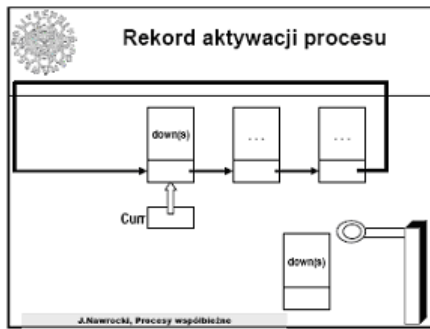
2. IMPLEMENTACJA SEMAFORÓW



(* gwiazdką oznaczone są zadania, które nie są realizowane na ćwiczeniach i są przeznaczone do wykonania jako zadania domowe.



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Rekord aktywacji procesu

```

procedure down(s: sem):
begin |D| Save;
s.Val = s.Val - 1;
if s.Val < 0 then
begin
Pred = Curr;
while Pred^.Next <> Curr do
Pred = Pred^.Next;
Pred^.Next = Curr^.Next;
Curr^.Next = s.Proc;
s.Proc = Curr;
end; | Load; E| Run;
end;

```

J.Nawrocki, Procesy współbieżne

(* gwiazdką oznaczone są zadania, które nie są realizowane na ćwiczeniach i są przeznaczone do wykonania jako zadania domowe.