

Expressing Parallelism: A Very Brief Introduction

```
program Negate ;
```

```
var    I :      Integer ;  
      Image: array[0..65535] of byte ;
```

```
begin  
  for i := 0 to 65535 do  
    begin  
      Image[i] := 255 - Image[i] ;  
    end ;  
  end .
```

```
program Superscalar_Negate ;
```

```
var    I :      Integer ;  
      Image: array[0..65535] of byte ;
```

```
begin  
  Image[0] := 255 - Image[0] ;  
  Image[1] := 255 - Image[1] ;  
  ...  
  Image[65535] := 255 - Image[65535] ;  
end .
```

```
program VLIW_Negate ;
```

```
var    I :      Integer ;  
      Image: array[0..65535] of byte ;
```

```
begin  
  Image[0] := 255 - Image[0] : Image[1] := 255 - Image[1] : Image[3] := 255 - Image[3] : Image[4] := 255 - Image[4] ;  
  Image[5] := 255 - Image[5] : Image[6] := 255 - Image[6] : Image[7] := 255 - Image[7] : Image[8] := 255 - Image[8] ;  
  ...  
end .
```

```
program DualCore_Negate ;
```

```
var    I :      Integer ;  
      Image: array[0..65535] of byte ;
```

```
begin  
  {Thread}  
  for i := 0 to 32767 do  
    begin  
      Image[i] := 255 - Image[i] ;  
    end ;  
  
  {Thread}  
  for i := 32768 to 65535 do  
    begin  
      Image[i] := 255 - Image[i] ;  
    end ;  
end .
```

```
program Negate ;
```

```
var    I :      Integer ;  
      Image: array[0..65535] of byte ;
```

```
begin
```

```
    Image := 255 - Image ;
```

```
end .
```