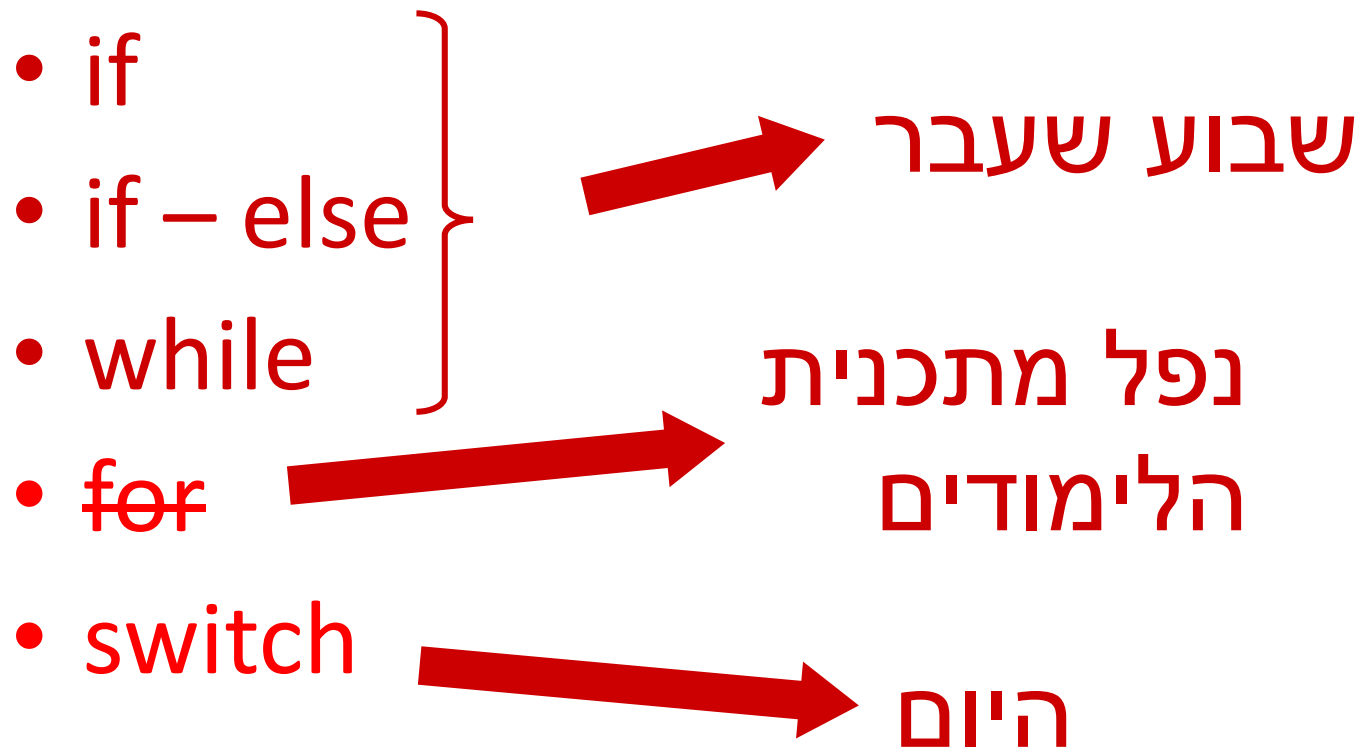


מבנה מהדרים - יצירת קוד עבור switch

Control flow

- if
- if – else
- while
- for
- switch

Control flow



IXJ

- indexed jump.

- ממשיך את ביצוע הקוד מה-label בתוספת המספר שבראש המחסנית

Switch

• תרגמו ל PCode:

```
switch (2) {  
    case 1:  
        print 1  
    case 2:  
        print 2  
    case 3:  
        print 3  
}
```

```
    ldc 2
    neg
    ixj end_switch
case_1:
    ldc 1; print
    ujp end_switch
case_2:
    ldc 2; print
    ujp end_switch
case_3:
    ldc 3; print
    ujp end_switch

    ujp case_3
    ujp case_2
    ujp case_1
end_switch:
```

Switch

• תרגמו ל PCode:

```
switch (2) {
    case 1:
        print 1
    case 2:
        print 2
    case 3:
        print 3
}
```

program p

var

x : int;

begin

x = 1;

switch (x) {

case 1 {

if (x == 3) {

x = 2

}

}

case 2 {

while (x > -1){

x = x - 3

}

}

}

end

תרגול

• תרגמו את הקוד
הבא ל PCode

תרגול

program p

var

 x : int;

begin

 x = 1;

 switch (x) {

 case 1 :

 if (x == 3) {

 x = 2

 }

 case 2:

 while (x > -1){

 x = x - 3

 }

 }

 print x

end

ldc 5

ldc 1

sto

ldo 5

neg

ixj end_1

case_1:

ldo 5

ldc 3

equ

fjp end_if

ldc 5

ldc 2

sto

end_if:

ujp end_1

case_2:

loop:

ldo 5

ldc -1

grt

fjp end_l

ldc 5

ldc 5

ind

ldc 3

sub

sto

ujp loop

end_l:

ujp end_1

ujp case_2

ujp case_1

end_1:

ldc 5

ind

print

Switch - סיכום

```
switch (expr){  
    case 1:  
        ...  
    case 2:  
        ...  
        ...  
    case n:  
        ...  
}
```

Switch - סיכום

```
switch (expr){  
    case 1: ...  
    case 2: ...  
    :  
    case n: ...  
}
```



```
        coder(expr)  
        neg  
        ixj end_switch  
case_1:  
        ...  
        ujp end_switch  
case_2:  
        ...  
        ujp end_switch  
:  
case_n:  
        ...  
        ujp end_switch  
  
        ujp case_n  
:  
        ujp case_2  
        ujp case_1  
end_switch:
```

סיכום - Switch

```
switch (expr){  
  case 1:  
    ...  
  case 2:  
    ...  
  ⋮  
  case n:  
    ...  
}
```



```
coder(expr)  
neg  
ixj end_switch  
case_1:  
  ...  
  ujp end_switch  
case_2:  
  ...  
  ujp end_switch  
⋮  
case_n:  
  ...  
  ujp end_switch  
  
  ujp case_n  
  ⋮  
  ujp case_2  
  ujp case_1  
end_switch:
```

יצירת קוד
עבור
ביטויים.
מידע
בהרצאה

program p

var

a : int;

b : int;

c : int;

d : bool;

e: int

begin

e = 2;

a = 14 - (-(8*(5-3)));

b = a * a + (-a);

while (a - b ≤ b){

c = 1;

switch (c){

case 1:

d = true;

case 2:

switch (e){

case 1:

print c

case 2:

if (a < b)

a = a + b

case 3:

if (false){

print 2

} else {

print a

}

}

}

}

print a;

print b;

print c;

print (d && (a - b > c))

end

תרגול עצמי

• תרגמו את הקוד הבא ל PCode: