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GROUP 14\_1
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### **REGISTER ALLOCATION:**

#### **1. COST :**

- Calculated by weighted sum of use of variables in next K LINES. More the cost more it is used recently after this line.
- If Allocate Register is called for a var with score 0 => reg not allocated, else min cost register is allocated.

2. *For assignments of kind  $a=b$ , **SAME REGISTER** is allocated.*

#### **3. DIRTY BIT :**

- **When deallocating a register, value is flushed only if dirty bit is one.**

4. Expression Evaluation: **Branch with lesser height is calculated first.**

### **OPTIMISATIONS:**

- $a = b$  => Same register used
- $a = a+0$  => Ignored
- $a = a+1$  => INC instruction used
- $a = a$  => Ignored
- $a = ++a$  => Increment done. Assignment ignored.

### **FEATURES:**

- **Parallel Assignment** done using stacks.
- **Graphic mode used to simulate bot movement (FW).**
- Add operation implemented for Point data type (ADDV).
- **USER input** for integer variables.
- **Arrays, Splicing** implemented.