

D2. PEEPHOLE OPTIMIZATION IN COMPILER DESIGN

It is a type of code optimization performed on a small point of code. It is performed on very small set of instructions in segment of code.

The small set of instructions on small part of code on which peephole optimization is performed is known as peephole on window

It basically works on theory of replacement in which a part of code is replaced by shorter and faster code without change in output

Objectives of peephole organization - to improve performance

- to reduce memory footprin

- to reduce code size

PEEPHOLE OPTIMIZATION TECHNIQUES - 21 MANUAL DION

1. Redundant load & Stone Elimination - In this techinque sedundany is eliminated

INVIAL GOE	OPTIMIZED FODE
y = x+5;	y=x+5;
j=y;	i=y;
z=i;	w=y * 3;
10 = 7 * 3'.	

w = Z * 3

#



2.	CONSTANT FOLDING - the code that ran be simplified by
	user itself is simplified
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	38 PANITIAL CODE DA BANGODPIMIZED CODE TO GOOD
	x=2 + 3; 500 to 100 x=6; 1 Epods dictroi
3.	STRENGTH REDUCTION - operation that consumt higher
$D_{D,1,0,4}$	de de la
	by operators in consuming less
	execution time.
	in niethorningric to unorth no extract planted the
	INTITAL CODE MANAGE AND BOTTOMITTAL CODE TO topo A
	y = x + 2;
ragios Hin	OPTMIZED COPE - aditasian OPTIMIZED COPE autoid
langle of 1	y=x+x; y=x>>1;
	above trukare of
4,	NULL SEQUENCES - useless operations any deleted
Sugar	COMBINE OPERATIONS - several operations and replaced
	by a single equivalent operation
	300 GJ Smith ()
	13 mm 1 3
A STATE OF THE PARTY OF THE PAR	



83 BASIC BLOCK of reduces the space outwalled add

It is set of a statements. The basic blocks do not have any in and out branches except entry and exit. It means the flow of controls enter at the beginning and will leave at the end without any hault. The set of instructions of basic block executes in sequence.

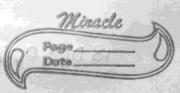
The new basic block always stants from the first instructions and keep adding instructions until a jump on label is met

The algorithm for the construction of basic blocks is given below:

- -> ALGORITHM
- -> INPUT
- -> OUTPUT
- -> METHOD

FLOW GIRAPH

It is a directed graph. After partitioning an intermediate code into blocks, the flow of control among basic blocks is represented by a flow graph. An edge can flow from one block x to another x block's first instruction immedically follows the x block's last instruction.



The following ways will describe the edge: 200 32 -> There is a conditional or unconditional jump from the end x to the starting of Y. and to come alonger to work and enough the time 3 address code, and x does not end in an unconditional jump The purpose of flow graph is to depict that how the program control is being parsed among the blocks. It contains the flow of control information for the set of basic block. adopted a post retend of material and It is also useful in the loop optimization Togree : GOHTIM ST HOUSE GOLD It is a ninected graph. After positioning on page Jontain to work and advolet other atom stribenestar

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