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| **Ex. No. 07** | **Relative Loader** | | |
| Date of Exercise | \_\_\_\_\_\_\_\_\_\_\_ | Date of Output Verification | \_\_\_\_\_\_\_\_\_\_\_ |

**Question**

Write a program to simulate loader.

**Program**

import java.io.\*;

import java.util.\*;

//@author William Scott

public class CompilerLabExp7RelativeLoader {

//UR12CS135 - P.William Scott - Exp 7 - Relative Loader

public static BufferedReader br, brop;

public static BufferedWriter bw;

public static String line, ts[], s, startingaddress, v, ss, m, r, op;

public static Scanner in = new Scanner(System.in);

public static int n;

public static void main(String[] args) throws Exception {

System.out.println("\nUR12CS135 - Relative Loader");

br = new BufferedReader(new FileReader("..\\Exp 7 - Loader Input File.txt"));

bw = new BufferedWriter(new FileWriter(new File("..\\Exp 7 - Loader Output File.txt")));

System.out.println("Enter Starting Address");

startingaddress = in.nextLine();

ss = startingaddress;

System.out.println("\n------Input File-----");

while ((line = br.readLine()) != null) {

System.out.println(line);

ts = line.split(" ");

if (line.startsWith("H")) {

s = ts[1];

}

if (line.startsWith("T")) {

if (ts[1] != s) {

v = hexoperations(ts[1], s, '-');

} else {

v = "1";

}

if (v != "1") {

ss = hexoperations(startingaddress, v, '+');

}

m = ts[2];

n = 3;

for (char c : m.toCharArray()) {

if (c == '1') {

r = hexoperations(startingaddress, ts[n], '+');

r = hexoperations(r, s, '-');

} else {

r = ts[n];

}

op = ss.toUpperCase() + "\t" + r;

bw.write(op);

bw.newLine();

ss = hexoperations(ss, "3", '+');

n++;

}

}

}

bw.close();

showop();

}

public static void showop() throws Exception {

brop = new BufferedReader(new FileReader("..\\Exp 7 - Loader Output File.txt"));

System.out.println("\n-----Output File------");

while ((line = brop.readLine()) != null) {

System.out.println(line);

}

}

public static String hexoperations(String a, String b, char op) {

String c;

int t = 0;

if (op == '+') {

t = Integer.parseInt(a, 16) + Integer.parseInt(b, 16);

} else if (op == '-') {

t = Integer.parseInt(a, 16) - Integer.parseInt(b, 16);

}

c = Integer.toHexString(t);

return c;

}

}

**Input**

H 1000 200

T 1000 11001 141033 481039 901776 921765 571765

T 4011 11110 234838 434979 894060 664849 994477

E 1000

**Output**

2000 142033

2003 482039

2006 901776

2009 921765

200C 572765

5011 235838

5014 435979

5017 895060

501A 665849

501D 994477

**Result**

Implementation of Relative Loader is successfully done.

[Signature of the Staff In-charge]

Name of the Staff In – charge: Mr. Jeban Chandir Moses

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_