

Government Engineering College, Thrissur
CS331 – System Software Lab
Documentation -
Exp 11 – Hash table for SYMTAB

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Submitted By
Kowsik Nandagopan D
Roll No 31
TCR18CS031
GECT CSE S5

Experiment 11

AIM

Implement a symbol table with suitable hashing

Compiling of Code

Prerequisite

- The code is provided in the **program.c** along with this documentation. You can open the terminal in Linux (Ubuntu 18.04 tested). Then run the command (We have to pass -lm parameter when compiling because we are using math.h header file)

```
gcc program.c -lm
```

```
./a.out
```

- Compile and run **program.c** using the above code.
- Input is given in the console. When we execute a.out, menu driven console will be available. Enter the values as given in test case file. *Note that the hash table is set to a max size of 11, also max size of name of label is 4. We can change values by editing #define in source code*
- Output will be printed onto console. Hash table will be printed to console as well as to symbol.txt

P. T. O

Output / Screenshots

Input

```
[hp@localhost Uploads]$ gcc program.c -lm
[hp@localhost Uploads]$ ./a.out
```

```
1.Create a symbol table
2.Search in the symbol table
3.Exit
Enter your choice:1
```

```
Enter the address:1000
Enter The label:data
```

```
Continue(y/n): y
```

```
Enter the address:1003
Enter The label:test
```

```
Continue(y/n): y
```

```
Enter the address:1007
Enter The label:abc
```

```
Continue(y/n): n
```

```
The Symbol Table is
```

Hashvalues	address	label
0	0	
1	0	
2	0	
3	0	
4	0	
5	1007	abc
6	0	
7	0	
8	1003	test
9	0	
10	1000	data

P. T. O

Ouput (Continuation of above screenshot)

```
1.Create a symbol table
2.Search in the symbol table
3.Exit
Enter your choice:2
Enter the label: abc

The label abc is present at address: 5
```

```
1.Create a symbol table
2.Search in the symbol table
3.Exit
Enter your choice:2
Enter the label: hi

Symbol not present
```

```
1.Create a symbol table
2.Search in the symbol table
3.Exit
Enter your choice:3
[hp@localhost Uploads]$
```

symbol.txt

```
Exp11 > Uploads > ≡ symbol.txt
 1 |
 2 0 0
 3 1 0
 4 2 0
 5 3 0
 6 4 0
 7 5 1007 abc
 8 6 0
 9 7 0
10 8 1003 test
11 9 0
12 10 1000 data
```