**CSE 115 Lab on nested loop (part 1) – Ara2**

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| **Write C programs to print the following patterns:** | |
| **1. Square pattern for N lines. E.g. for N=4**:  \*\*\*\*  \*\*\*\*  \*\*\*\*  \*\*\*\* | **2. Hollow square pattern for N lines. E.g. for N=4**:  \*\*\*\*  \* \*  \* \*  \*\*\*\* |
| #include <stdio.h>  void main()  {  int i, j, N;  printf("No. of rows:");  scanf("%d", &N);  //In each of N rows/lines  for(i=1; i<=N; i++)  {  //print N stars  for(j=1; j<=N; j++)  {  **printf("\*");**  }//j    //Go to next line  printf("\n");  }//i  } | #include <stdio.h>  void main()  {  int i, j, N;  printf("No. of rows:");  scanf("%d", &N);  for(i=1; i<=N; i++)  {  for(j=1; j<=N; j++){  **//Print star in first and last row as well as in first and last column**  **if(i==1||i==N||j==1||j==N)**  **printf("\*");**  **else**  **printf(" ");**  }//j  printf("\n");  }//i  } |

**Try yourself 1a: Write a C program to print a rectangle pattern of size m\*n. For e.g. for m=10, n=5 print:**

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**Try yourself 2a: Write a C program to print a hollow rectangle pattern of size m\*n. For e.g. for m=10, n=5 print:**

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**Try yourself 2b: Write a C program to print a hollow right angled triangle of height n. For e.g. for n=7 print:**

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| **3. Rhombus pattern for N lines. E.g. for N=4**:  \*\*\*\*  \*\*\*\*  \*\*\*\*  \*\*\*\* |
| #include <stdio.h>  void main()  {  int i, j, N;  printf("Enter rows: ");  scanf("%d", &N);  for(i=1; i<=N; i++)  {  //Print leading spaces  for(j=1; j<=N - i; j++)  printf(" ");  //Print stars after spaces  for(j=1; j<=N; j++)  printf("\*");  printf("\n");  }  } |

**Exercise Problems:**

1. **Write a C program to print hollow rhombus star pattern of N lines. E.g. for N=5 print:**

[\*\*\*\*\*](http://www.codeforwin.in/2015/07/c-program-to-print-hollow-rhombus-star-pattern.html)

[\* \*](http://www.codeforwin.in/2015/07/c-program-to-print-hollow-rhombus-star-pattern.html)

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**Assignment Problems:**

1. **Write a C program to print a hollow parallelogram pattern of size m\*n. E.g for m=10, n=5 print:**

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1. **Write a C program to print a right justified hollow right angled triangle of height n. For e.g. for n=7 print:**

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