Question no : 12.4

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Question : Allocate two dimensional array using pointers

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Semester : 1

Programme : BSC(DA)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int r, c,i,j;

printf("Enter the number of rows: ");

scanf("%d", &r);

printf("Enter the number of columns: ");

scanf("%d", &c);

int \*\*a = (int \*\*)malloc(r \* sizeof(int \*));

for ( i = 0; i < r; i++)

{

a[i] = (int \*)malloc(c \* sizeof(int));

if (a[i] == NULL)

{

printf("Memory allocation failed for row %d.\n", i);

return 1;

}

}

printf("\nEnter elements for the 2D array:\n");

for ( i = 0; i < r; i++)

{

for ( j = 0; j < c; j++)

{

printf("Element [%d][%d]: ", i + 1, j + 1);

scanf("%d", &a[i][j]);

}

}

printf("\nThe 2D aay is:\n");

for (i = 0; i < r; i++)

{

for ( j = 0; j < c; j++)

{

printf("%d ", a[i][j]);

}

printf("\n");

}

for ( i = 0; i < r; i++)

{

free(a[i]);

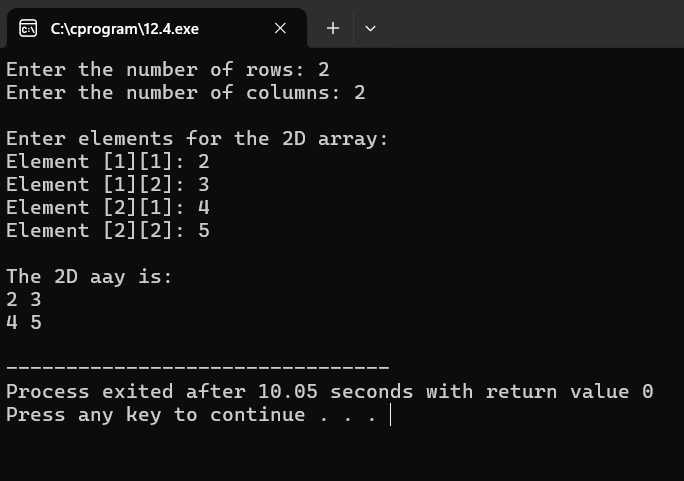
}

free(a);

return 0;

}

**OUTPUT**

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