**Question 01**

**Code**

#include<stdio.h>

#include<stdlib.h>

int main(void){

int numofelements=0,i=0,sum=0;

printf("Enter the number of elements of the array:\n");

scanf("%d",&numofelements);

int \*ptr=(int\*)malloc(numofelements\*sizeof(int));

if (ptr == NULL){

printf("\nMemory allocation failed\n");

}

else{

printf("Enter the elements of the array:\n");

for (i=0; i<numofelements; i++){

scanf("%d",ptr+i);

sum=sum+\*(ptr+i);

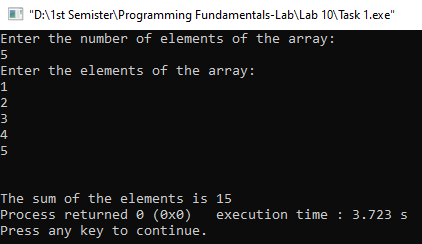
}

printf("\n\nThe sum of the elements is %d",sum);

free(ptr);

}

}

**Output**

**Question 02**

**Code**

#include<stdio.h>

#include<stdlib.h>

int main(void){

int rows=0,columns=0,i=0,j=0,sum=0;

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

scanf("%d",&rows);

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

scanf("%d",&columns);

int \*\*array=(int \*\*)malloc(rows\*sizeof(int));

for (i=0; i<rows; i++){

array[i]=(int \*)malloc(columns\*sizeof(int));

}

printf("Now enter the elements of the array:\n");

for (i=0; i<rows; i++){

for (j=0; j<columns; j++){

scanf("%d",(\*(array+i)+j));

}

}

printf("\n\n");

for (i=0; i<rows; i++){

sum=0;

for (j=0; j<columns; j++){

sum=sum+\*(\*(array+i)+j);

}

printf("The sum of %d row is %d\n",i+1,sum);

}

printf("\n\n");

for (i=0; i<columns; i++){

sum=0;

for (j=0; j<rows; j++){

sum=sum+\*(\*(array+j)+i);

}

printf("The sum of %d column is %d\n",i+1,sum);

}

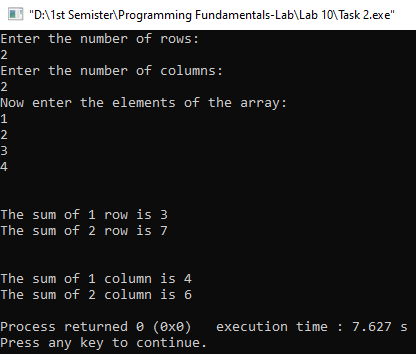
for (i=0; i<rows; i++) {

free(array[i]);

}

free(array);

}

**Output**

**Question 03**

**Code**

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

int main(void){

char sentence[1000];

printf("Enter a sentence less than 1000 letters:\n");

gets(sentence);

char \*\*final\_array=0;

int i=0,words=0;

int count=0;

int number\_of\_words=strlen(sentence);

printf("\nThe length of the input character array is: %d\n",number\_of\_words);

for (i=0; sentence[i]!='\0'; i++){

if (sentence[i]!=' '){

count++;

}

}

printf("\nWith out space the length of the input character array is: %d\n",count);

char \*token=strtok(sentence," ");

while(token!=0){

final\_array = (char \*\*)realloc(final\_array,(words+1)\*sizeof(char \*));

final\_array[words]=(char \*)malloc((strlen(token)+ 1)\*sizeof(char));

strcpy(final\_array[words], token);

words++;

token=strtok(0," ");

}

printf("\n2D Array Output:\n");

for (i=0; i<words; i++){

printf("%s\n",\*(final\_array + i));

}

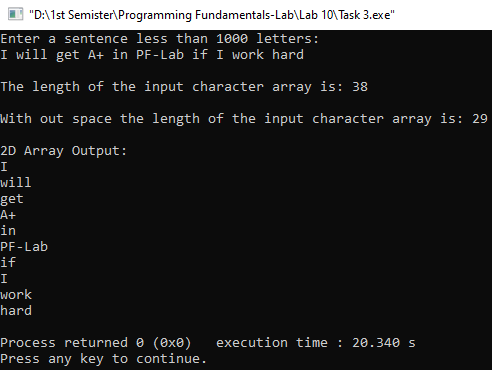
for (i=0; i<words; i++){

free(\*(final\_array+i));

}

free(final\_array);

}

**Output**

**Question 04**

**Code**

#include<stdio.h>

#include<conio.h>

#include<stdlib.h>

int main(void){

int rows=0,columns=0,i=0,j=0;

char choice;

while(choice!='N'){

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

scanf("%d",&rows);

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

scanf("%d",&columns);

int \*\*array=(int \*\*)malloc(rows\*sizeof(int \*));

for(i=0; i<rows; i++){

array[i]=(int \*)malloc(columns\*sizeof(int));

}

for(i=0; i<rows; i++){

for(j=0; j<columns; j++){

\*(\*array+i \* columns+j)=rand()%401-200;

}

}

for (i=0; i<rows; i++){

int minimum=\*(\*array+i \* columns);

int maximum=\*(\*array+i \* columns);

for (j=1; j<columns; j++){

if(\*(\*array+i \* columns+j)<minimum){

minimum=\*(\*array+i \* columns+j);

} else if(\*(\*array+i \* columns+j)>maximum){

maximum=\*(\*array+i \* columns+j);

}

}

for (j=0; j<columns; j++) {

if(\*(\*array+i \* columns+j)>0){

\*(\*array+i \* columns+j)=minimum;

} else if(\*(\*array+i \* columns+j)<0){

\*(\*array+i \* columns+j)=maximum;

}

}

}

printf("Modified Array is:\n");

for(i=0; i<rows; i++) {

for(j=0; j<columns; j++) {

printf("%d\t",\*(\*(array+i)+j));

}

printf("\n");

}

for (i=0; i<rows; i++) {

free(\*(array+i));

}

free(array);

printf("Do you want to continue? Y=Yes\tN=No:\n");

choice=getche();

printf("\n");

}

}

**Output**