PROGRAMMING FUNDAMENTALS

LAB TASK

Name: Mohsin Ali
Roll Number: 25P-0545
Section: BCS-1C

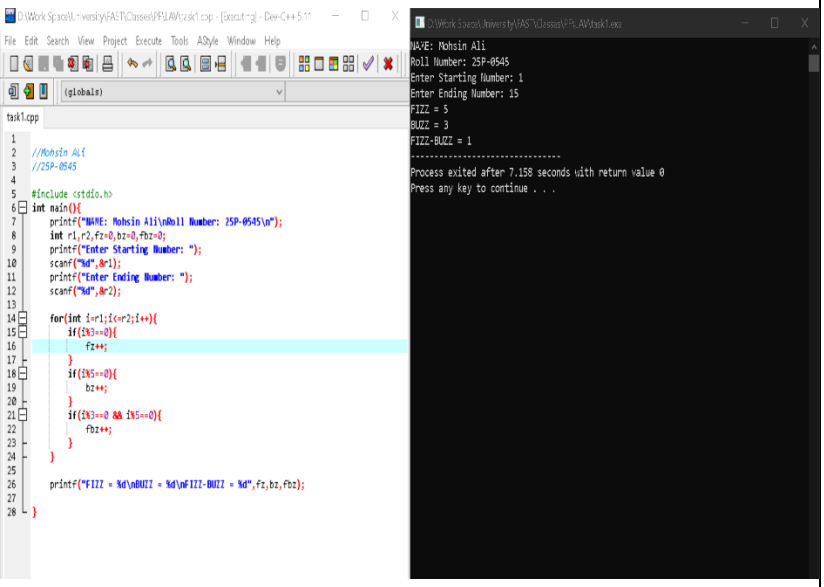
QUESTION# 01

Write a program to take range from user starting number and ending number), count the number fizz, Buzz and Fizz-Buzz, in the given range

Fizz In Multiple of 3

Buzz is Multiple of 5

Fizz-Buzz is Multiple of 3 and 5




```
//Mohsin Ali
//25P-0545
#include <stdio.h>
int main(){
printf("NAME: Mohsin Ali\nRoll Number: 25P-0545\n");
int r1,r2,fz=0,bz=0,fbz=0;
printf("Enter Starting Number: ");
scanf("%d",&r1);
printf("Enter Ending Number: ");
scanf("%d",&r2);

for(int i=r1;i<=r2;i++){
if(i%3==0){
fz++;
}
if(i%5==0){
bz++;
}
if(i%3==0 && i%5==0){
fbz++;
}
}

printf("FIZZ = %d\nBUZZ = %d\nFIZZ-BUZZ = %d",fz,bz,fbz);

}
```

QUESTION# 02

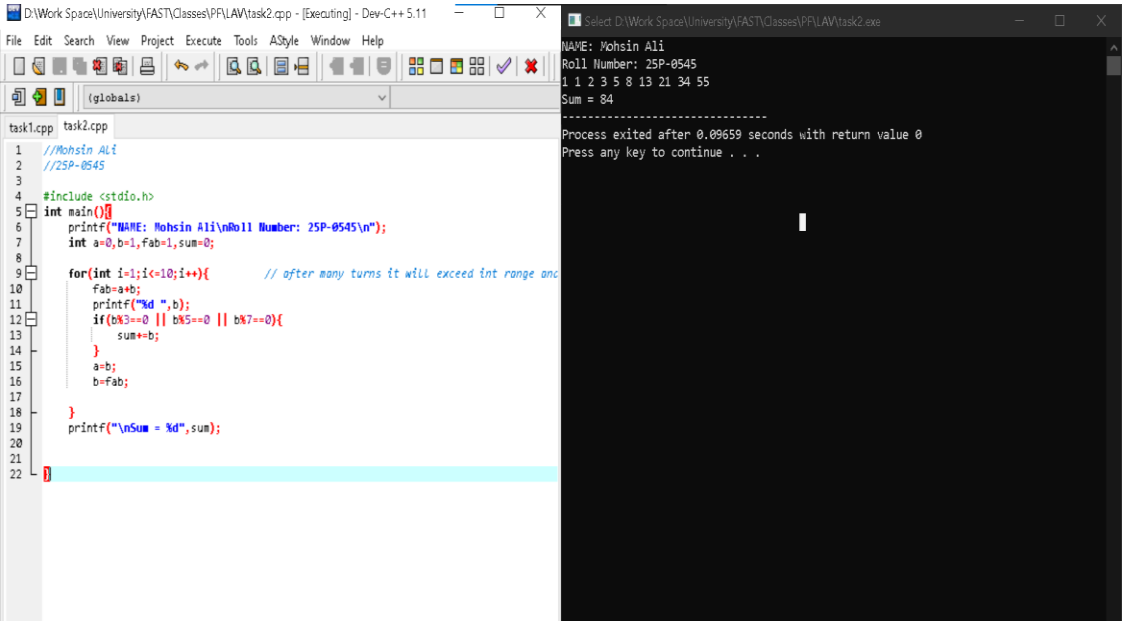
Write a program that will generate the Fibonacci series up to 10000.

Also find the sum of the generated Fibonacci numbers divisible by 3, 5 or 7 only.

An example of the Fibonacci series is:

1 1 2 3 5 8 13 21.....

Note: Do this task by using a for loop DO NOT use arrays for this.

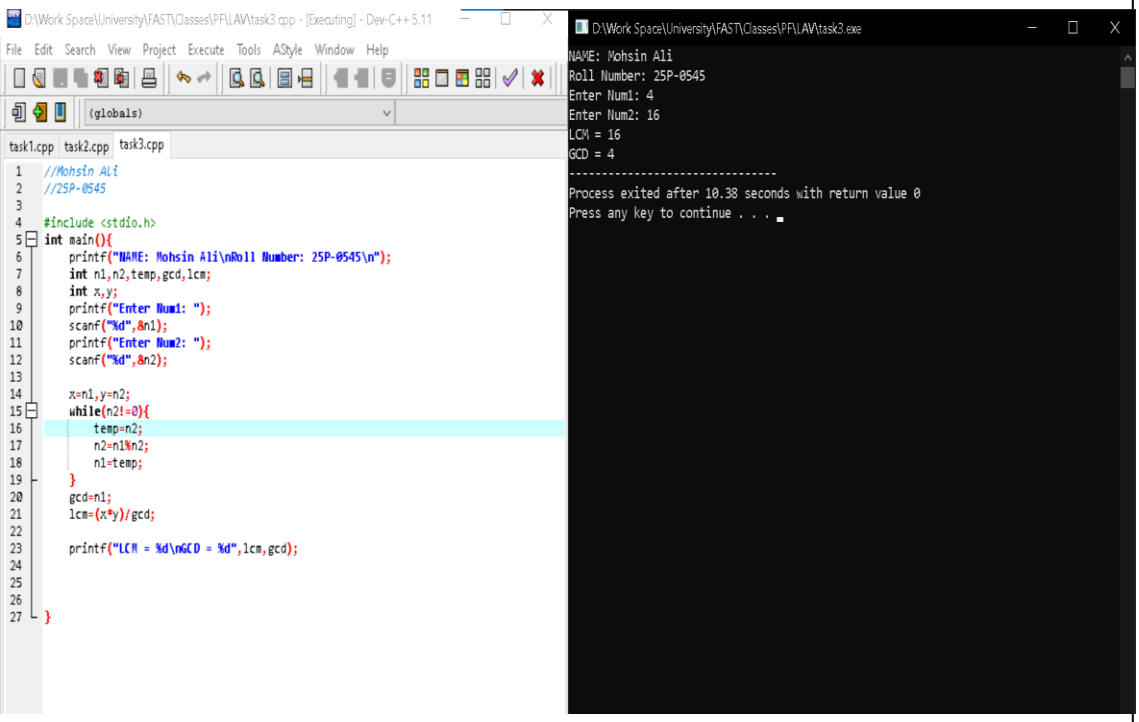



```
//Mohsin Ali
//25P-0545


#include <stdio.h>
int main(){
printf("NAME: Mohsin Ali\nRoll Number: 25P-0545\n");
int a=0,b=1,fab=1,sum=0;


for(int i=1;i<=10;i++){
        /* after many turns it will exceed int range and then it will print garbage values */
fab=a+b;
printf("%d ",b);
if(b%3==0 || b%5==0 || b%7==0){
sum+=b;
}
a=b;
b=fab;


}
printf("\nSum = %d",sum);



}
```

QUESTION# 03

Write a C Program to compute the

LCM and GCD of two numbers.




```
//Mohsin Ali

//25P-0545


#include <stdio.h>

int main(){

printf("NAME: Mohsin Ali\nRoll Number: 25P-0545\n");

int n1,n2,temp,gcd,lcm;

int x,y;

printf("Enter Num1: ");

scanf("%d",&n1);

printf("Enter Num2: ");

scanf("%d",&n2);


x=n1,y=n2;

while(n2!=0){

temp=n2;

n2=n1%n2;

n1=temp;

}

gcd=n1;

lcm=(x*y)/gcd;


printf("LCM = %d\nGCD = %d",lcm,gcd);




}
```

QUESTION# 04

Consider Two integers a and b taken as i

nput from the user.

Using Loops iterate the value of

a till the value of b.

If the value of a<=9

the output should correspond

to the English representation of the

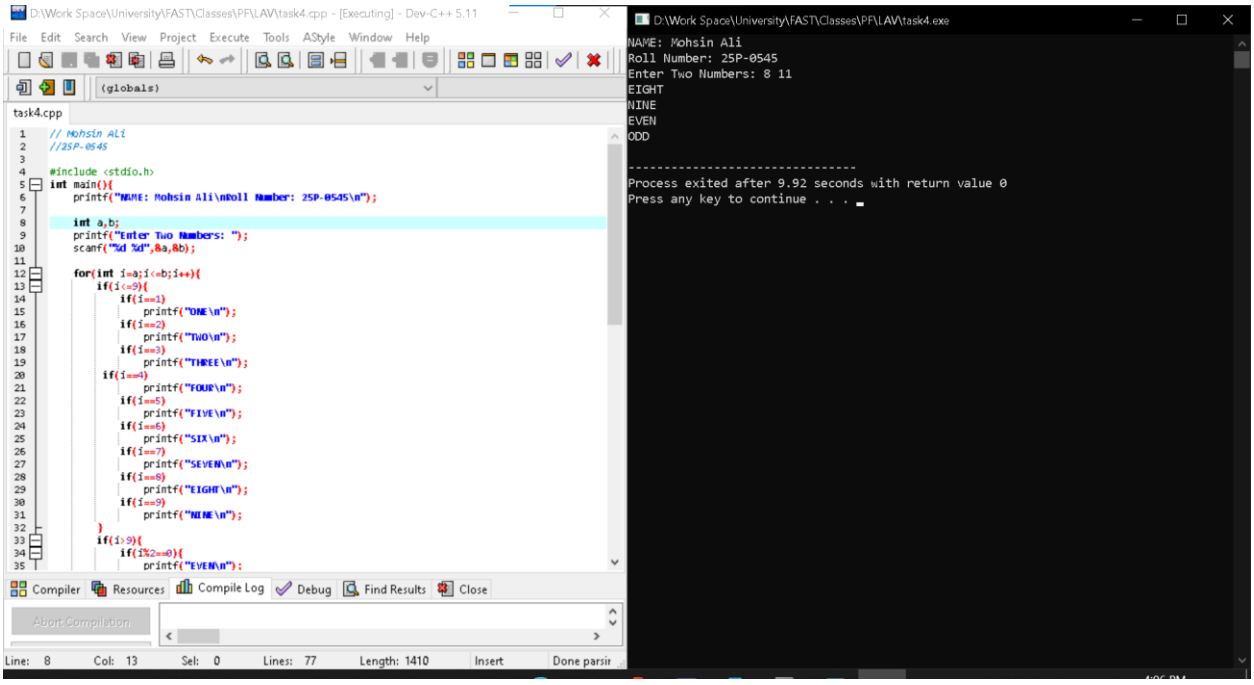
numbers i.e., 8=Eight, 9=Nine etc.

If the iteration exceeds 9 then the

programs should print if the exceeded

number is even or

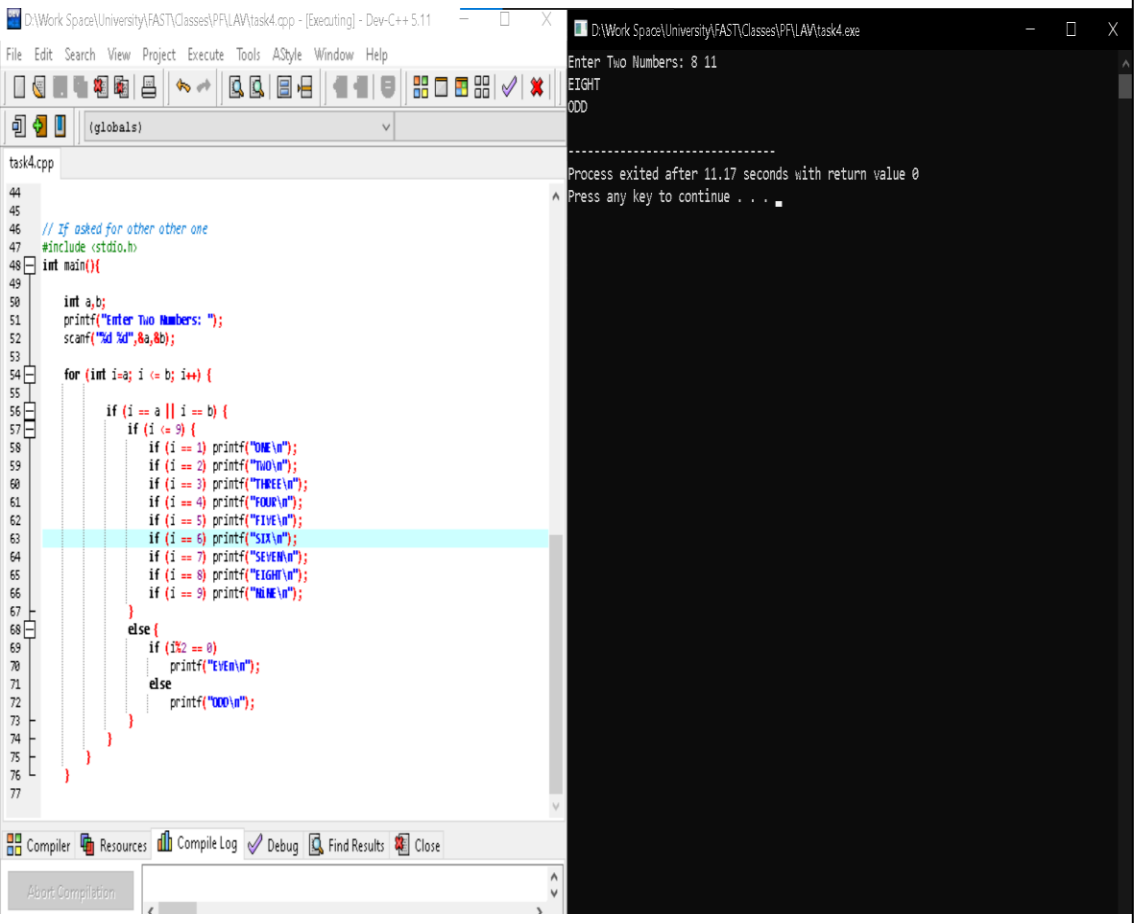
odd.



Source Code:

```
// Mohsin Ali

//25P-0545

#include <stdio.h>

int main(){

printf("NAME: Mohsin Ali\nRoll Number: 25P-0545\n");

int a,b;

printf("Enter Two Numbers: ");

scanf("%d %d",&a,&b);

for(int i=a;i<=b;i++){

if(i<=9){

if(i==1)

printf("ONE\n");

if(i==2)

printf("TWO\n");

if(i==3)

printf("THREE\n");

if(i==4)

printf("FOUR\n");

if(i==5)

printf("FIVE\n");

if(i==6)

printf("SIX\n");

if(i==7)

printf("SEVEN\n");

if(i==8)

printf("EIGHT\n");

if(i==9)

printf("NINE\n");

}

if(i>9){

if(i%2==0){

printf("EVEN\n");

}else{

printf("ODD\n");

}

}

}return 0;}
```

Another Method to solve this Task




```
//Mohsin Ali
//25P-0545

#include <stdio.h>
int main(){

int a,b;
printf("Enter Two Numbers: ");
scanf("%d %d",&a,&b);

for (int i=a; i <= b; i++) {

if (i == a || i == b) {
if (i <= 9) {
if (i == 1) printf("ONE\n");
if (i == 2) printf("TWO\n");
if (i == 3) printf("THREE\n");
if (i == 4) printf("FOUR\n");
if (i == 5) printf("FIVE\n");
if (i == 6) printf("SIX\n");
if (i == 7) printf("SEVEN\n");
if (i == 8) printf("EIGHT\n");
if (i == 9) printf("NiNE\n");
}
else {
if (i%2 == 0)
printf("EVEn\n");
else
printf("ODD\n");
}
}
}
```

QUESTION#05

Write a C program that uses one-dimensional array name daily_temp to store one-week temperature reading.

Declare array with size of 7

e.g., {15,28,35,30,12,25,40}

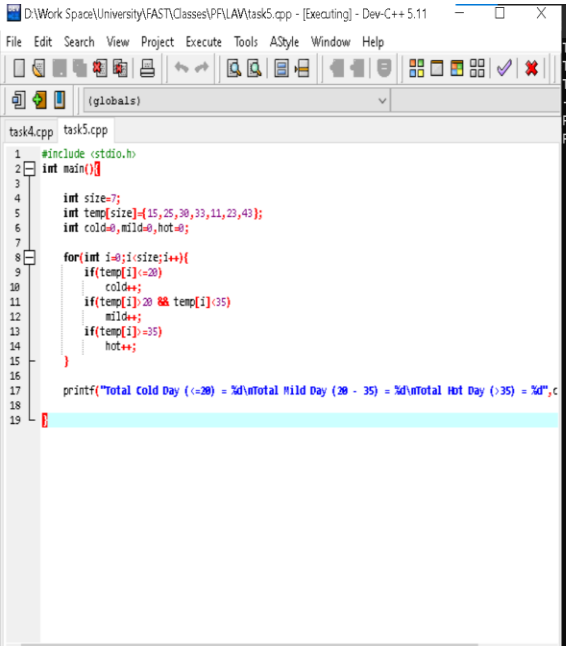
Classify temperature using these parameters

Cold day >>> temp<=20

Mild day >>> temp>20 and temp <35

Hot day >>> temp>=35

Count number of Cold, mild and hot day




```
//Mohsin Ali
//25P-0545

#include <stdio.h>
int main(){

int size=7;
int temp[size]={15,25,30,33,11,23,43};
int cold=0,mild=0,hot=0;

for(int i=0;i<size;i++){
if(temp[i]<=20)
cold++;
if(temp[i]>20 && temp[i]<35)
mild++;
if(temp[i]>=35)
hot++;
}

printf("Total Cold Day (<=20) = %d\nTotal Mild Day (20 - 35) = %d\nTotal Hot Day (>35) = %d",cold,mild,hot);

}
```

QUESTION# 06

Write a C program that produces

the following output:

0 0 0 0

1 1

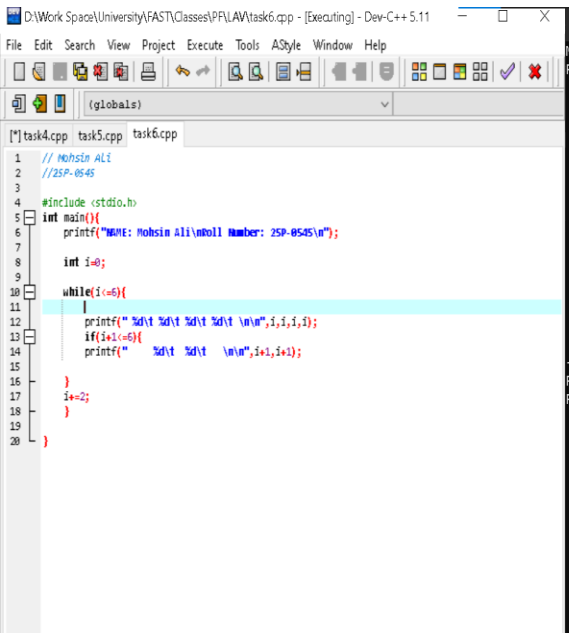
2 2 2 2

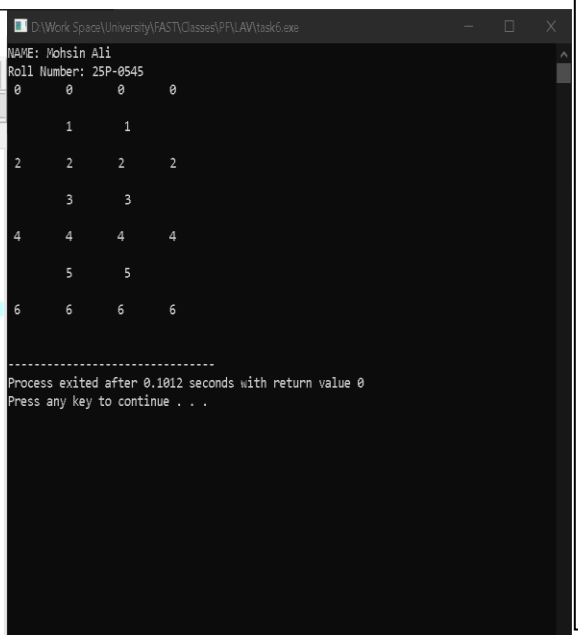
3 3

4 4 4 4

5 5

6 6 6 6



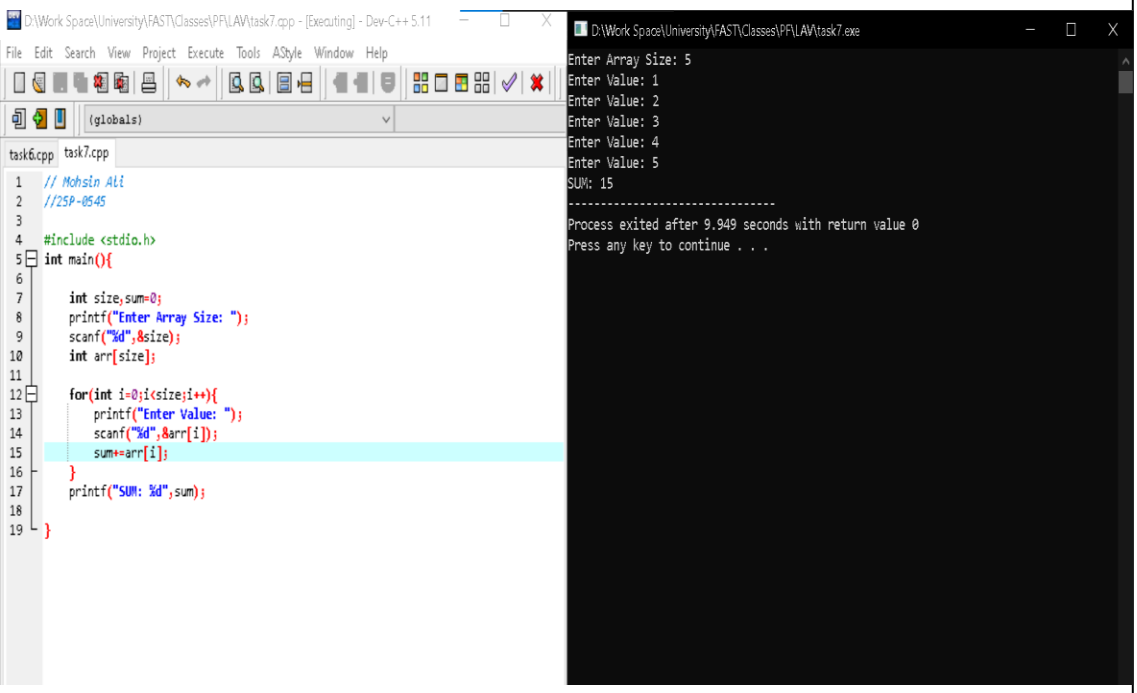



```
// Mohsin Ali
//25P-0545

#include <stdio.h>
int main(){
printf("NAME: Mohsin Ali\nRoll Number: 25P-0545\n");

int i=0;

while(i<=6){

printf(" %d\t %d\t %d\t %d\t \n\n",i,i,i,i);
if(i+1<=6){
printf("  %d\t  %d\t \n\n",i+1,i+1);

}
i+=2;
}

}
```

QUESTION# 07

Write a C Program that takes a user

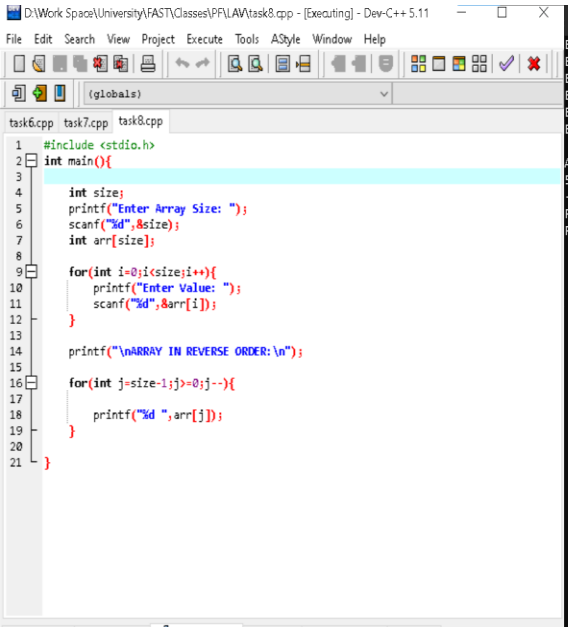
input array and prints the sum of its elements.

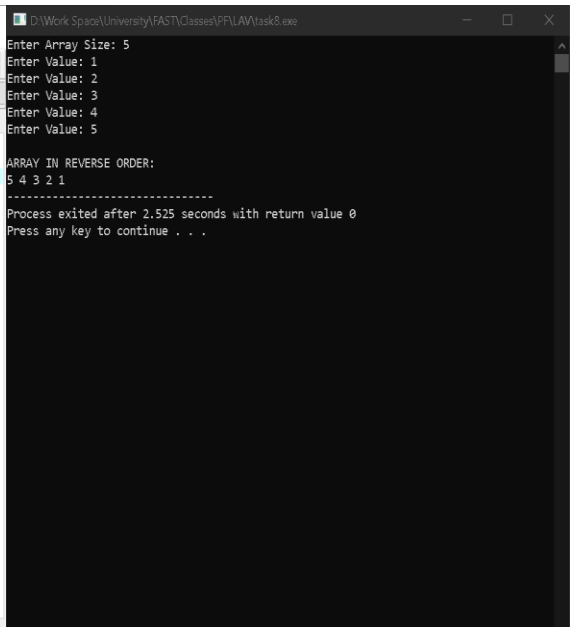



```
// Mohsin Ali
//25P-0545

#include <stdio.h>
int main(){

int size,sum=0;
printf("Enter Array Size: ");
scanf("%d",&size);
int arr[size];

for(int i=0;i<size;i++){
printf("Enter Value: ");
scanf("%d",&arr[i]);
sum+=arr[i];
}
printf("SUM: %d",sum);

}
```

QUESTION# 08

Write a program in C to read n number of values in an array and display it in reverse order.






```
#include <stdio.h>
int main(){

int size;
printf("Enter Array Size: ");
scanf("%d",&size);
int arr[size];

for(int i=0;i<size;i++){
printf("Enter Value: ");
scanf("%d",&arr[i]);
}

printf("\nARRAY IN REVERSE ORDER:\n");

for(int j=size-1;j>=0;j--){

printf("%d ",arr[j]);
}

}
```