

## Computing Applications for Engineers

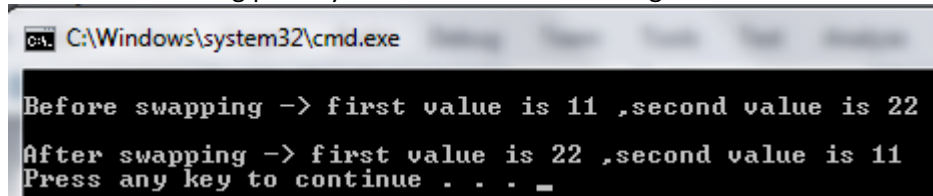
### PALS 6

#### Question 1

Write a C program function that calculates the factorial of an integer entered by a user. If a negative value was entered, an error message will be displayed.

#### Question 2

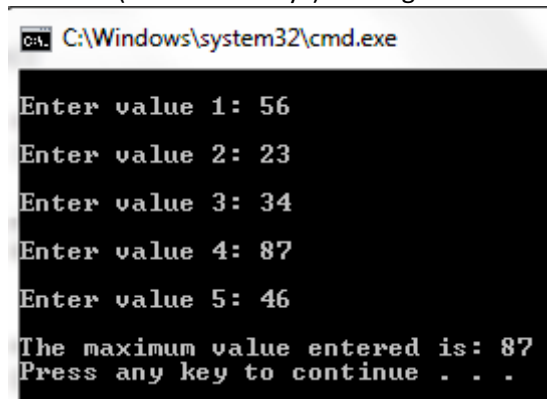
Write a C program function that takes the values in 2 variables, 'num1' and 'num2', and swap their values around using pass-by-reference method. The figure below shows the output of the program.



```
C:\Windows\system32\cmd.exe
Before swapping -> first value is 11 ,second value is 22
After swapping -> first value is 22 ,second value is 11
Press any key to continue . . . _
```

#### Question 3

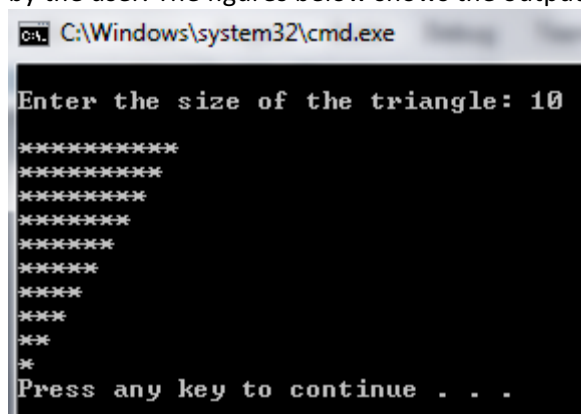
Write a C program that asks the user to enter 5 integers and then determines the maximum value entered. (Hint: use arrays). The figure below shows the output of the program.



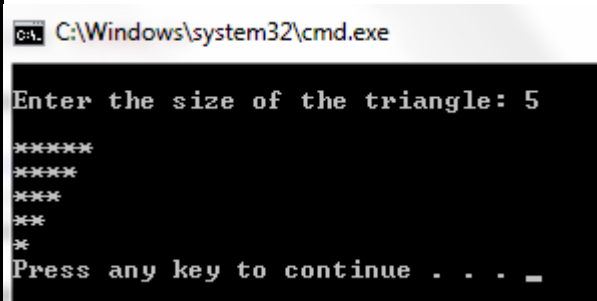
```
C:\Windows\system32\cmd.exe
Enter value 1: 56
Enter value 2: 23
Enter value 3: 34
Enter value 4: 87
Enter value 5: 46
The maximum value entered is: 87
Press any key to continue . . .
```

#### Question 4

Write a C program that draws a triangle using the '\*' character. The size of the triangle is determined by the user. The figures below shows the output of the program.



```
C:\Windows\system32\cmd.exe
Enter the size of the triangle: 10
*****
*****
*****
*****
*****
*****
*****
*****
*****
*****
Press any key to continue . . .
```



```
C:\Windows\system32\cmd.exe
Enter the size of the triangle: 5
*****
*****
*****
*****
*****
Press any key to continue . . . _
```