

PRF192 PE 03.31.20

Question 1:

(1 mark, file to be edited: Q1.cpp)

Users are required to enter a float number x using the keyboard (STDIN).

Please print out the result of $\cos(x)$ with 6 numbers after decimal point.

Below is an example of how the program will run:

Enter the values 1 or 2 for x

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1 OUTPUT: 0.540302 Press any key to continue . . .	2 OUTPUT: -0.416147 Press any key to continue . . .
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Question 2:

(1 mark, file to be edited: Q2.cpp)

Your program should allow users to enter two integer numbers a, b ($a < b$), then it prints prime numbers in range $[a, b]$. There is a space character between any two adjacent.

Example:

```
2
7
OUTPUT:
2 3 5 7
Press any key to continue . . .
```

Question 3:

(1 mark, file to be edited: Q3.cpp)

Users are required to enter two non-negative integer variables ' a ' and ' b ' (note: $a < b$) using the keyboard (STDIN).

The system displays the sum of all odd numbers from ' a ' to ' b '.

Below is an example of how the program will run:

Enter the values 2,5 for ' a ', ' b '

```
2
5
OUTPUT:
8
Press any key to continue . . .
```


Question 4:

(1 mark, file to be edited: Q4.cpp)

Your program allows users to enter 5 integer numbers.

The system displays the entered odd numbers in descending order. There is a space character between any two adjacent numbers.

Below is an example of how the program will run:



```
2
5
1
3
8

OUTPUT:
5 3 1
Press any key to continue . . .
```

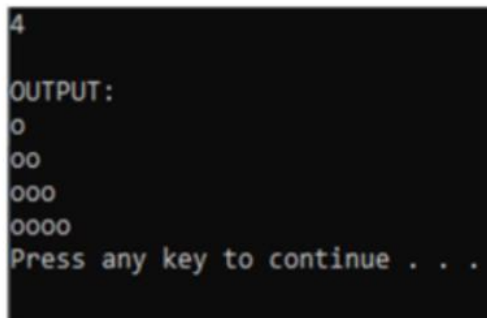
Question 5:

(1 mark, file to be edited: Q5.cpp)

Your program allows users to enter an integer number 'n'.

The program prints out isosceles right triangle using 'o' pattern of height 'n'.

Below is an example of how the program will run:



```
4

OUTPUT:
o
oo
ooo
oooo
Press any key to continue . . .
```

Question 6:**(1 mark, file to be edited: Q6.cpp)**

Your program allows users to enter array of n integers, where n is entered by the user and should be kept as a small value < 10)

- If the array is symmetric and contains all odd numbers, then display 1
- Otherwise display 0

Below are some examples:

<p>n = 4 array = {1,3,3,1} - all numbers are odd, symmetric array</p>	<p>n = 5 array = {2,2,3,2,2} - not all numbers are odd, symmetric array</p>
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<pre>4 1 3 3 1 OUTPUT: 1 Press any key to continue . . .</pre>	<pre>5 2 2 3 2 2 OUTPUT: 0 Press any key to continue . . .</pre>
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Question 7:**(1 mark, file to be edited: Q7.cpp)**

Your program allows users to enter a string 'o'. The system prints out the string in reverse order.

Below is an example:

<p>o=aabcde</p> <pre>aabcde OUTPUT: edcbaa Press any key to continue . . .</pre>

Question 8:

(1 mark, file to be edited: Q8.cpp)

Your program should allow users to find the odd number that appears the most in the array of 7 integers.

When the odd number appears the most in the array, your program prints out that number. There is a space character between any two adjacent numbers.

When there is no odd number existing in the array, your program prints to output: **No odd number.**

Below is the example showing how the program works:

There is/are most appearing odd numbers	There is no odd number Note: there is a dot '.' at the end of output
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<pre>1 2 3 4 1 2 3 OUTPUT: 1 3 Press any key to continue . . .</pre>	<pre>2 2 2 2 2 2 2 OUTPUT: No odd number. Press any key to continue . . .</pre>
<pre>1 1 1 2 3 4 5 OUTPUT: 1 Press any key to continue . . .</pre>	

Question 9:

(1 mark, file to be edited: Q9.cpp)

Your program should allow users to enter a float number, then it should display the absolute value of that number with 6 decimal points.

Example:

```
-1.37

OUTPUT:
1.370000
Press any key to continue . . .
```

Question 10:

(1 mark, file to be edited: Q10.cpp)

Your program should allow users to enter an integer number 'n', then it should display the sum of all the digits in the odd positions, the first position is the first digit on the left.

Example:

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```
134
OUTPUT:
5
Press any key to continue . . .
```