Question 1: Given an image of a puck, write a program to get a white outline around the puck. Save and display the image with the outline. The outline should be approximately similar to the test case outputs shown below. **Hint: Use binary image.**

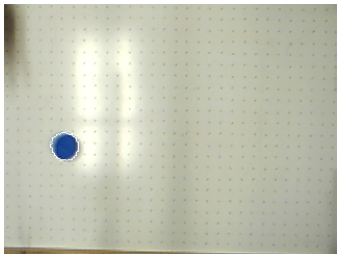
Program Inputs

- **Enter filename:**

Program Output

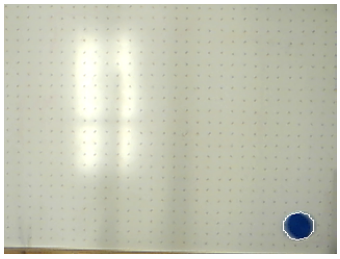
Test Case 1:

```
Enter filename: Puck_1.png
Outlined saved to Puck_1Outline.png
```



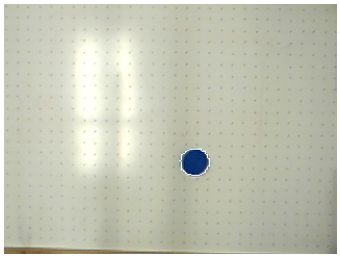
Test Case 2:

```
Enter filename: Puck_2.png
Outlined saved to Puck_2Outline.png
```



Test Case 3:

```
Enter filename: Puck_3.png
Outlined saved to Puck_3Outline.png
```



Question 2: Write a program to swap the order of the vowels in a given word. For example, if the word is **programming**, the output is **prigrammong**. Here, the initial order of vowels is **o, a, i** which changes to **i, a, o**. Assume that the letters of the words are in lowercase.

Program Inputs

- **Enter a word:**
  - *The user can enter a word of any length in lowercase...*

Program Outputs

- **The new word is: [Display the new word]**

Test Case 1:
```
Enter the word: programming
The new word is: prigrammong
```

Test Case 2:
```
Enter the word: xaxexixo
The new word is: xoxixexa
```

Test Case 3:
```
Enter the word: library
The new word is: labriry
```

Test Case 4:
```
Enter the word: psychopharmacological
The new word is: psychaphirmocolagacol
```

Test Case 5:
```
Enter the word: oooaiii
The new word is: iiiaooo
```

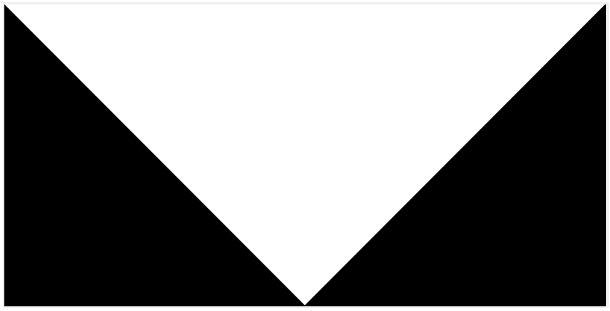
Test Case 6:
```
Enter the word: abstemious
The new word is: ubstomieas
```

Test Case 7:
```
Enter the word: deoxygenize
The new word is: deixygenoze
```

Question 3: The Atbash Cipher encrypts messages by reversing **lowercase letters**, so 'a' becomes 'z', 'b' becomes 'y', 'c' becomes 'x', etc... Also, any space or punctuation mark gets repeated. For example, **hello human!** encrypts to **svool sfnzm!!** Encrypt msg and save the answer to a variable called **encrypted** (you don't have to display anything). *Note: msg will only have lowercase letters, punctuation and spaces.*

```
msg = input(Enter secret message:  , s);
```

Question 4: Write a program to create and display the following image, which is 501 pixels tall and 1001 pixels wide.



```
pix = uint8(zeros(501, 1001, 3));
```