Sizeof operator, pointers and arrays

This exercise is different from our usual exercises. You don't have so much a problem to solve by creating a program but rather some things to understand about the programming language you are learning. To do so, we are going to write little programs which illustrate the relation between what we write and how it executes.

Work to do

This exercise will ask you to predict the value returned by the *sizeof* operator when applied to various expressions.

Once you are done writing down your predictions, based on your understanding of arrays, pointers and sizeof, you will have to implement this program and add printf statements to display the values of the various sizeof operators.

Once you are done, compare your predictions and observations and ask questions on the forums about the differences or simply ask for more explanations even if you guessed right but can't really explain what is going on.

Sample Program

This is the program in which the *sizeof* expressions listed below will be evaluated.

```c
#include <stdio.h>

int main()
{
    int    a1[3];
    double a2[3];
    int    v1;
    double v2;
    int    *p1 = a1;
    double *p2 = a2;
    int    *p3 = &v1;
    double *p4 = &v2;

    return 0;
}
```

Evaluate sizeof expressions

Sizeof Expression	Resulting Value		Explanation
	Expected	Observed	
sizeof (a1)			
sizeof (a2)			
sizeof (v1)			
sizeof (v2)			
sizeof (p1)			
sizeof (*p1)			
sizeof (p2)			
sizeof (*p2)			
sizeof (p3)			
sizeof (*p3)			
sizeof (p4)			
sizeof (*p4)			