

Practice Problem

- Write a short program that defines four variables: two integers (a and b) and two doubles (c and d)
 - Assign values of a and c within the program
 - Ask the user to provide values of b and d (use `scanf`)
- Create a variable that will be equal to $a+c$, one equal to $a+b$, and one equal to d to the power of 2 (include `<math.h>` library)
 - Note: You'll end up defining additional variables, so be sure to declare them at the beginning of your program! Should they be integers or doubles?
- Print out all the integer variables and all the double variables to the screen
- Include comments!

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>

void main()
{
    int a, b, Var2;
    double c, d, Var1, Var3;

    //Assigning values within the program
    a = 5;
    c = 3;

    //Asking user to provide values
    printf("Please provide a value for b: \n");
    scanf("%d", &b);

    printf("Please provide a value for d: \n");
    scanf("%lf", &d);

    //Creating new variables
    Var1 = a + c;
    Var2 = a + b;
    Var3 = pow(d, 2);

    //Printing to screen
    printf("The integers are: a=%d, b=%d, Var2=%d\n", a, b, Var2);
    printf("The doubles are: c=%lf, d=%lf, Var1=%lf, Var3=%lf\n", c, d, Var1, Var3);
}
```

Let's try an example

- Write a program that asks the user to type in number 1, 2, or 3
- If the user types 1, print “You chose 1”; if the user types 2, print “You chose 2”; if the user types 3, print “You chose 3”; otherwise print “You didn’t choose any of the options”
- Now convert to switch-case!

```
#include <stdio.h>
#include <stdlib.h>

int main()
{
    //Create variable
    int your_choice;

    //Request user input
    printf("Please type 1, 2, or 3\n\n");
    scanf("%d", &your_choice);

    //Print appropriate result using switch-case
    switch (your_choice)
    {
        case 1:
            printf("\nYou chose 1\n");
            break;
        case 2:
            printf("\nYou chose 2\n");
            break;
        case 3:
            printf("\nYou chose 3\n");
            break;
        default:
            printf("\nYou didn't choose any of the options\n");
            break;
    }
}
```