## Basic Calculator:

```
while True:
 # Display the menu of operations
 print("Select operation:")
 print("1. Add")
 print("2. Subtract")
 print("3. Multiply")
 print("4. Divide")
 print("5. Exit")
 # Get the user's choice
 choice = input("Enter choice (1/2/3/4/5): ")
# If the user chooses to exit, break the loop
 if choice == '5':
     print("Exiting the calculator. Goodbye!")
     break
# Check if the choice is one of the four operations
if choice in ['1', '2', '3', '4']:
     # Get the two numbers from the user
     num1 = float(input("Enter first number: "))
     num2 = float(input("Enter second number: "))
     # Perform the chosen operation and display the result
     if choice == '1':
         result = num1 + num2
         print(f"{num1} + {num2} = {result}")
     elif choice == '2':
         result = num1 - num2
         print(f"{num1} - {num2} = {result}")
     elif choice == '3':
         result = num1 * num2
         print(f"{num1} * {num2} = {result}")
     elif choice == '4':
         # Check for division by zero
         if num2 != 0:
             result = num1 / num2
             print(f"{num1} / {num2} = {result}")
         else:
             print("Error! Division by zero.")
 else:
     # Handle invalid input
     print("Invalid input. Please enter a number between 1 and 5.")
```