

1. Create a calculator using all the operators available in arithmetic operators.

Ans:- Code:-

```
def add(x, y):
```

```
    return x + y
```

```
def subtract(x, y):
```

```
    return x - y
```

```
def multiply(x, y):
```

```
    return x * y
```

```
def divide(x, y):
```

```
    if y != 0:
```

```
        return x / y
```

```
    else:
```

```
        return "Error: Cannot divide by zero!"
```

```
def modulo(x, y):
```

```
    if y != 0:
```

```
        return x % y
```

```
    else:
```

```
        return "Error: Cannot divide by zero!"
```

```
def exponentiate(x, y):
```

```
    return x ** y
```

```
def floor_division(x, y):
```

```
    if y != 0:
```

```
        return x // y
```

else:

return "Error: Cannot divide by zero!"

def calculate():

operation = input("Please enter an operation (+, -, \*, /, %, \*\*, //): ")

if operation not in ['+', '-', '\*', '/', '%', '\*\*', '//']:

print("Invalid operation!")

return

num1 = float(input("Enter the first number: "))

num2 = float(input("Enter the second number: "))

result = None

if operation == '+':

result = add(num1, num2)

elif operation == '-':

result = subtract(num1, num2)

elif operation == '\*':

result = multiply(num1, num2)

elif operation == '/':

result = divide(num1, num2)

elif operation == '%':

result = modulo(num1, num2)

elif operation == '\*\*':

result = exponentiate(num1, num2)

elif operation == '//':

result = floor\_division(num1, num2)

```
print("Result: " + str(result))
```

```
# Main program loop
```

```
while True:
```

```
    calculate()
```

```
    choice = input("Do you want to perform another calculation? (yes/no): ")
```

```
    if choice.lower() != "yes":
```

```
        break
```

Output:-

```
PS C:\Users\Atul\OneDrive\Desktop\Python\assignment3.py> & "C:/Program Files/Python311/python.exe" c:/Users/Atul
/OneDrive/Desktop/Python/assignment3.py/Main.py
Please enter an operation (+, -, *, /, %, **, //): +
Enter the first number: 50
Enter the second number: 60
Result: 110.0
Do you want to perform another calculation? (yes/no): yes
Please enter an operation (+, -, *, /, %, **, //): -
Enter the first number: 50
Enter the second number: 30
Result: 20.0
Do you want to perform another calculation? (yes/no): 
```