 # Calculator Program

```
class inp():
    def init (self, a, b): self.a
        = a
        self.b = b
class cal(inp):
    def add(self):
        return self.a + self.b
    def sub(self):
        return self.a - self.b
    def mul(self):
        return self.a * self.b
    def div(self):
        return self.a / self.b
c = 1
while c != 0:
    print("Select an Option")
    print("0. Exit")
    print("1. Addition")
    print("2. Subtraction")
    print("3. Multiplication")
    print("4. Division")
    print("5. Default: a=6, b=2")
    c = int(input("Enter a choice: "))
    if c == 1:
        a = float(input("Enter the first number: "))
```

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```
    b = float(input("Enter the second number: ")) x = cal(a, b)
    s = x.div()
    print("The result of division of ", a, "&", b, "is:", s)
  elif c == 5:
    x = cal(6, 2) p
    = x.add()
    print("The result of addition of 6 & 2 is:", p)
    q = x.sub()
    print("The result of subtraction of 6 & 2 is:", q) r
    = x.mul()
    print("The result of multiplication of 6 & 2 is:", r) s
    = x.div()
    print("The result of division of 6 & 2 is:", s)
```

Output:

C:\Users\abc\venv\Scripts\python.exe C:/Users/abc/Downloads/cal1.py

Select an Option

0. Exit

1. Addition

2. Subtraction

3. Multiplication

4. Division

5. Default: a=6, b=2

Enter a choice: 1

Enter the first number: 12

Enter the second number: 3

The result of addition of 12.0 & 3.0 is: 15.0

Select an Option

0. Exit

1. Addition

2. Subtraction

3. Multiplication

4. Division

5. Default: a=6, b=2

Enter a choice: 2

Enter the first number: 3

Enter the second number: 6

The result of subtraction of 3.0 & 6.0 is: -3.0

Select an Option

0. Exit

1. Addition

2. Subtraction

3. Multiplication

4. Division

5. Default: a=6, b=2

Enter a choice: 3

Enter the first number: 6

Enter the second number: 3

The result of multiplication of 6.0 & 3.0 is: 18.0

Select an Option

0. Exit

1. Addition

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2. Subtraction

3. Multiplication

4. Division

5. Default: a=6, b=2

Enter a choice: 4

Enter the first number: 18

Enter the second number: 6

The result of division of 18.0 & 6.0 is: 3.0

Select an Option

0. Exit

1. Addition

2. Subtraction

3. Multiplication

4. Division

5. Default: a=6, b=2

Enter a choice: 5

The result of addition of 6 & 2 is: 8

The result of subtraction of 6 & 2 is: 4

The result of multiplication of 6 & 2 is: 12

The result of division of 6 & 2 is: 3.0

Select an Option

0. Exit

1. Addition

2. Subtraction

3. Multiplication

4. Division

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5. Default: a=6, b=2

Enter a choice: 0

 # Multiple Inheritance

```
class Animal:
    def speak(self):
        print("Animal Speaking")
class Dog(Animal):
    def bark(self):
        print("Dog Barking")
class DogChild(Dog):
    def eat(self):
    print("Eating bread...")
d = DogChild()
d.bark()
d.speak()
d.eat()
```

Output:

Dog Barking

Animal Speaking

Eating bread...

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 # Polymorphism with inheritance

```
class Bird:
    def intro(self):
        print("There are many types of birds.")
    def flight(self):
        print("Most of the birds can fly but some cannot.")
class sparrow(Bird):
    def flight(self):
    print("Sparrows can fly.")
class ostrich(Bird):
    def flight(self):
        print("Ostriches cannot fly.")
obj_bird = Bird()
obj_spr = sparrow()
obj_ost = ostrich()
obj_bird.intro()
obj_bird.flight()
obj_spr.intro()
obj_spr.flight()
obj_ost.intro()
obj_ost.flight()
```

Output:

```
C:\Users\abc\venv\Scripts\python.exe C:/Users/abc/Downloads/polymorphism.py
There are many types of birds.
```

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Most of the birds can fly but some cannot.

There are many types of birds.

Sparrows can fly.

There are many types of birds.

Ostriches cannot fly.

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