Code : Problem 5

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"""
Problem Statement : To accept the number and compute
                    a) Square root of number
                    b) Square of number
                    c) Cube of number
                    d) Check For Prime
                    e) Factorial of number
                    f) Prime factors
"""
Solution :
```

```
# Taking a number as a input from the user
Number = int(input("Enter the number :"))

def Choose_Operation():
     operation = (input("Please select the operation that you
want to perform : \n  1. Find_Square_root() \n  2. Find_Square()
\n  3. Find_Cube() \n  4. Check_prime_number() \n  5.
Find_factorial() \n  6. Prime_factors() \nPlease Enter Your
Choise :"))

     if operation == '1':
         Find_Square_root()
     elif operation == '2':
         Find_Square()
     elif operation == '3':
         Find_Cube()
     elif operation == '4':
         Check_prime_number()
     elif operation == '5':
         Find_factorial()
     elif operation == '6':
         Prime_factors()
     else:
         print("\nError! Please enter a valid input")
         again()
```

```
def Find_Square_root():

    print(f"The Square root of {Number} = {Number ** 0.5}")

def Find_Square():

    print(f"The Square root of {Number} = {Number ** 2}")

def Find_Cube():

    print(f"The Square root of {Number} = {Number ** 3}")

def Check_prime_number():

    if Number <= 1:
        print(f"{Number} is not a prime number")
    else:
        for i in range(2, Number):
            if Number % i == 0:
                print(f"{Number} is not a prime number")
                break
        else:
            print(f"{Number} is a prime number")

def Find_factorial():

    factorial = 1
    if Number < 0:
        print("Sorry, Factorial does not exist for negative
number")
    elif Number == 0:
        print("The factorial of 0 = 1")
    else:
        for i in range(1, Number+1):
            factorial = factorial * i
        print(f"The factorial of {Number} = {factorial}")

def Prime_factors():
    global Number
    prime_factor = []
    divisor = 2
    while divisor <= Number:
        if Number % divisor == 0:
            prime_factor.append(divisor)
            Number = Number/divisor
        else:
            divisor += 1
```

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    print(prime_factor)

def again():
    cal_again = input("Do you want to calculate again ? \nPlease
type y for YES and n for NO :")

    if cal_again == "y":
        print("\nHii, Again !!!")
        Choose_Operation()


    elif cal_again == "n":
        print("See you later !!!")

    else:
        again()

Choose_Operation()
```