FILE HANDLING AND ERROR HANDLING IN PYTHON

File operations

1. Opening a file

```
file = open("/content/Rakshi.txt","r")
```

Reading a file

```
file = open("/content/Rakshi.txt","r")
content = file.read()
print(content)
file.close()
```

```
rakshitha
cse
1st year
```

writing to a file

```
file = open("/content/Rakshi.txt","w")
file.write("Hello, world!\n")
file.close()
```

Appending to a file

```
file = open("/content/Rakshi.txt","a")
file.write("this is an append line.\n")
file.close()
```

Using 'with' statement

```
with open("/content/Rakshi.txt","r") as file:
  content = file.read()
  print(content)
```

```
Hello, world!
this is an append line.
```

File handling modes

```
with open("/dog.jpeg","rb")as file:
  data=file.read()
```

ERROR HANDLING

```
try:
  num = int(input("enter a number:"))
  print(10/num)
except zerodivisionerror:
  print("you cannot divide by zero.")
except ValueError:
  print("invalid input! please enter a number.")
```

```
enter a number:12
0.8333333333333334
```

Finally Block

```
try:
  file = open("/content/Rakshi.txt", "r")
except fikenotfounderror:
  print("file not found.")
finally:
  print("execution complete.")
```

```
execution complete.
```

Raising exception

```
def check_age(age):
  if age<18:
    raise ValueError("age must be 18 or older.")
    return True

try:
  check_age(16)
except ValueError as e:
  print(e)
```

```
age must be 18 or older.
```

Creating a custom Exception

```
def check_positive(number):
  if number<=0:
    raise NegativeNumberError("Negative number entered.")

try:
  num = int(input("Enter a positive number:"))
  check_positive(num)
  print("You entered a positive number.")
except NegativeNumberError as e:
  print(e)
```

```
Enter a positive number:12
You entered a positive number.
```

Count Lines in a File

```
def count_lines(file_path):
    with open(file_path, 'r') as file:
        lines = file.readlines()
        return len(lines)
```

Count words in a file

```
def count_words(file_path):
    with open(file_path, 'r') as file:
        # Read the content of the file
        content = file.read()

        # Split the content into words and count them
        words = content.split()  # Split by any whitespace
        return len(words)
```

copy file contents

```
def copy_file_contents(source_file, destination_file):
    try:
        # Open the source file in read mode
        with open(source_file, 'r') as source:
            # Read the content of the source file
            content = source.read()

        # Open the destination file in write mode
        with open(destination_file, 'w') as destination:
            # Write the content to the destination file
            destination.write(content)

        print(f"Contents of {source_file} successfully copied to
{destination_file}")

    except FileNotFoundError:
        print(f"Error: The file {source_file} was not found.")
    except Exception as e:
        print(f"An error occurred: {e}")
```

Random num generator

```
import random
random_number = random.randint(1, 6)
print("The random number is:", random_number)
```

```
The random number is: 2
```

check if file exists

```
import os

def check_file_exists(file_path):
    if os.path.exists(file_path):
        print(f"The file '{file_path}' exists.")
    else:
        print(f"The file '{file_path}' does not exist.")
```

Write a list to a file

```
def write_numbers_to_file(file_path, number_list):
    try:
        # Open the file in write mode ('w')
        with open(file_path, 'w') as file:
            # Write each number from the list to the file, each on a
new line
            for number in number_list:
                file.write(f"{number}\n")  # Add a newline after each
number
        print(f"Numbers successfully written to {file_path}")
    except Exception as e:
        print(f"An error occurred: {e}")
```