Code:1

```
#no errors to debug and succesfully compiled and output is printed.
def reverse_string(s):
    reversed = ""
    for i in range(len(s) - 1, -1, -1):
        reversed += s[i]
    return reversed
def main():
    input_string = "Hello, world!"
    reversed_string = reverse_string(input_string)
    print(f"Reversed string: {reversed_string}")
if __name__ == "__main__":
 main()
```

output:

```
Reversed string: !dlrow ,olleH
```

Code:2

```
def get_age():
    age = input("Please enter your age: ")
    if age.isnumeric() and int(age) >= 18:    #TypeError: '>=' not supported between instances of 'str' and 'int'.replace age with int(age)
        return int(age)
    else:
        return None
def main():
    age = get_age()
    if age:
        print(f"You are {age} years old and eligible.")
    else:
        print("Invalid input. You must be at least 18 years old.")
```

```
if _name_ == "_main_":
    main()
```

output:

```
Please enter your age: 67
You are 67 years old and eligible.
```

Code:3

```
def read_and_write_file(filename):
    try:
        with open(filename, 'r') as file:
            content = file.read()
        with open(filename, 'w') as file:
            file.write(content.upper())
        print(f"File '{filename}' processed successfully.")
    except Exception as e:
        print(f"An error occurred: {str(e)}")

def main():
    filename = "sample.txt"
    read_and_write_file(filename)

if __name__ == "__main__":
    main()
```

output:

```
An error occurred: [Errno 2] No such file or directory: 'sample.txt'
```

Code:4

```
def merge_sort(arr):
    if len(arr) <= 1:
        return arr

    mid = len(arr) // 2
    left = arr[:mid]
    right = arr[mid:]
    merge_sort(left)
    merge_sort(right)

    i = j = k = 0

    while i < len(left) and j < len(right):
        if left[i] <= right[j]:             #error in the recursion condition "<= operation"
            arr[k] = left[i]
            i += 1
        else:
            arr[k] = right[j]
            j += 1
        k += 1

    while i < len(left):
        arr[k] = left[i]
        i += 1
        k += 1
    while j < len(right):
        arr[k] = right[j]
        j += 1
        k += 1

arr =[38, 27, 43, 3, 9, 82, 10]
merge_sort(arr)
print(f"The sorted array is: {arr}")
```

output:

```
The sorted array is: [3, 9, 10, 27, 38, 43, 82]
```