Lab Session 11

Question 1:

INPUT

```
def eligibility():  1 usage  new *
    try:
        years_of_education = int(input("Enter years of education: "))
        if years_of_education <= 16:
            raise Exception(
            "It's not enough. You must have more than 16 years of education."
            )

    except ValueError as e:
        print("Error:",e)

    except Exception as e:
        print("Error:",e)

    else:
        print("You are eligible.")

eligibility()
```

OUTPUT

```
Enter years of education: 12
Error: It's not enough. You must have more than 16 years of education.
```

```
Enter years of education: twelve
Error: invalid literal for int() with base 10: 'twelve'
```

```
Enter years of education: 17
You are eligible.
```

Question 2:

INPUT

```
def smart_division():  1 usage  new *
    try:
        dividend = float(input("Enter dividend: "))
        divisor = float(input("Enter divisor: "))
        if divisor == 0:
            raise ZeroDivisionError

    except ZeroDivisionError:
        print("You can't divide by zero.")

    except ValueError:
        print("Inappropriate input. Only numbers allowed.")

    else:
        answer = dividend / divisor
        answer = round(answer, 3)
        print(f"Answer: {answer}")

smart_division()
```

OUTPUT

```
Enter dividend: 12
Enter divisor: thirteen
Error: Inappropriate input. Only numbers allowed.
```

```
Enter dividend: 14
Enter divisor: 0
Error: You can't divide by zero.
```

```
Enter dividend: 25
Enter divisor: 3
Answer: 8.333
```

Question 3:

INPUT

```python
def factorial_calculator():  1 usage  new *
    try:
        factorial = int(input("Enter a number to calculate factorial: "))
        if factorial <= 0:
            raise Exception("Input cannot be zero or less than zero.")

        num = factorial
        for i in range(factorial-1, 0, -1):
            num *= i

    except ValueError:
        print("Error: Please enter an integer to calculate factorial.")

    except Exception as e:
        print("Error:",e)

    else:
        print(f"Answer: {factorial}! = {num}")

factorial_calculator()
```

OUTPUT

```
Enter a number to calculate factorial: one
Error: Please enter an integer to calculate factorial.
```

```
Enter a number to calculate factorial: -1
Error: Input cannot be zero or less than zero.
```

```
Enter a number to calculate factorial: 0
Error: Input cannot be zero or less than zero.
```

```
Enter a number to calculate factorial: 5
Answer: 5! = 120
```

Question 4:

INPUT

```python
class InsufficientEducationError(Exception):  2 usages  new *
    """Custom exception for Insufficient Education"""
    def __init__(self, message):  new *
        self.message = message

    def __str__(self):  new *
        return self.message

def eligibility():  1 usage  new *
    try:
        years_of_education = int(input("Enter years of education: "))
        if years_of_education <= 16:
            raise InsufficientEducationError(
                "It's not enough. You must have more than 16 years of education."
            )

    except ValueError as e:
        print("Error:",e)

    except InsufficientEducationError as e:
        print("Error:",e)

    else:
        print("You are eligible.")

eligibility()
```

OUTPUT

```
Enter years of education: thirteen
Error: invalid literal for int() with base 10: 'thirteen'
```

```
Enter years of education: 20
You are eligible.
```

```
Enter years of education: 12
Error: It's not enough. You must have more than 16 years of education.
```