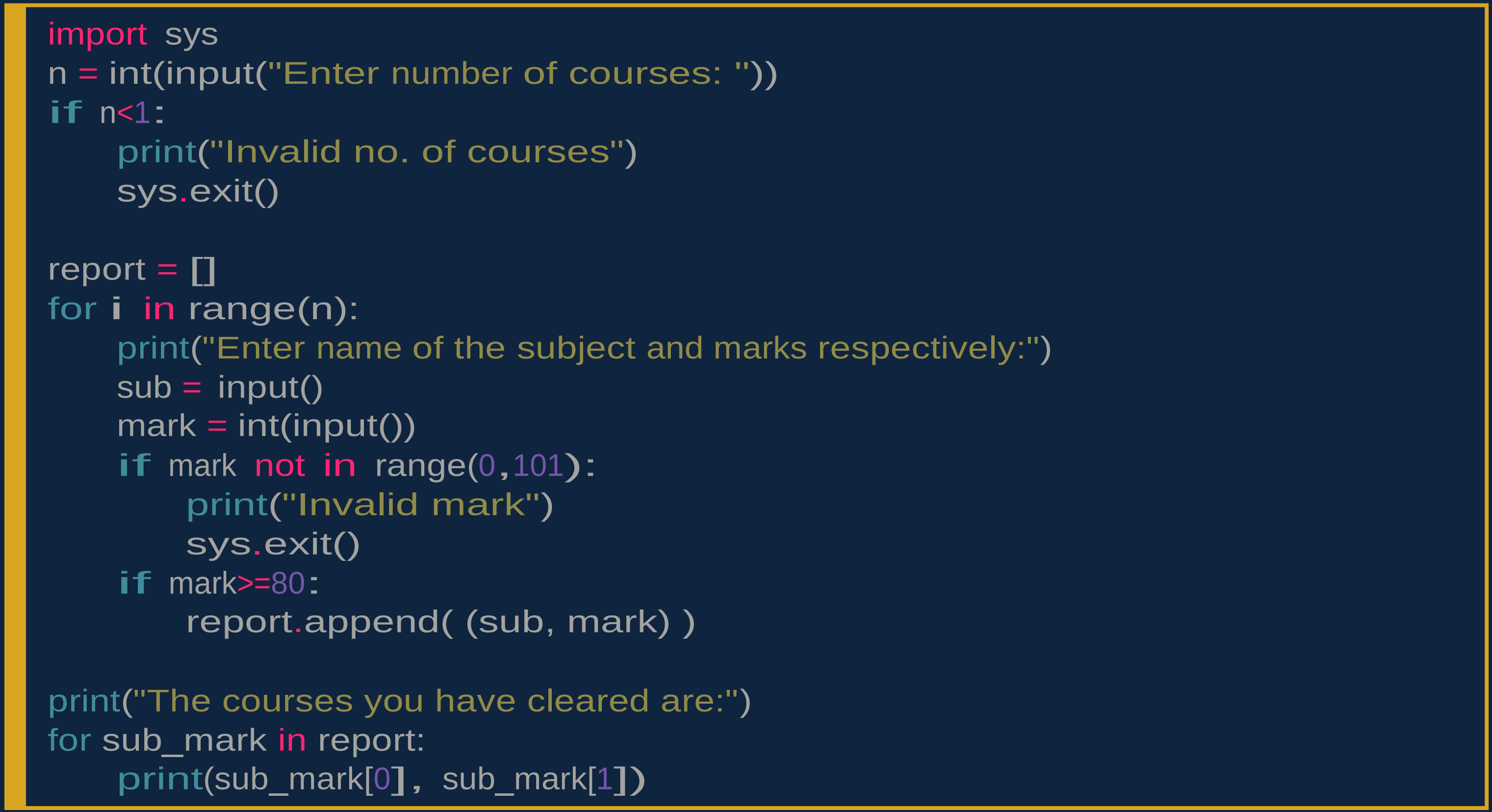
Cognizant Python

1. AEIMA's Online Courses



```python
import sys
n = int(input("Enter number of courses: "))
if n<1:
    print("Invalid no. of courses")
    sys.exit()

report = []
for i in range(n):
    print("Enter name of the subject and marks respectively:")
    sub = input()
    mark = int(input())
    if mark not in range(0,101):
        print("Invalid mark")
        sys.exit()
    if mark>=80:
        report.append( (sub, mark) )

print("The courses you have cleared are:")
for sub_mark in report:
    print(sub_mark[0], sub_mark[1])
```

2. Alien's Visit

```
print("Hello " + input("Enter the name: ") + "! Welcome to our planet Earth")
```

3. Arrange Names

```
import sys

n = int(input("Enter number of names:\n"))
if n<=0:
    print("Invalid Input")
    sys.exit()

names = []
print("Enter the number of names:")
for i in range(n):
    name = input()
    names.append(name)

names.sort()
names.sort(key=len)
sorted_names = names[::-1]
print("The sorted name list is:")
for name in sorted_names:
    print(name)
```

4. Copy the File

```
with open('file_in.txt', 'r') as file_1:
    with open('file_out.txt', 'w') as file_2:
        for line in file_1:
            file_2.write(line)

with open('file_out.txt', 'r') as file:
    contents = file.read()
    print(contents)
```

5. Farewell

```
import greet

name = input("Enter the senior's name: ")
print(greet.message, end=' ')
greet.greet(name)
print("Documentation string: "  + greet.__doc__)
```

Module greet.py

```
'''Module for Greeting'''

message = "Hello"

def greet(name):
    print("Mr." + name + ", Welcome to the farewell Party!!!")
```

6. Income Tax

```
import sys

age = int(input("Enter the age:\n"))
if age not in range(18,101):
    print('Invalid Age')
    sys.exit()

income = int(input("Enter the income:\n"))
if income<0:
    print('Invalid Income')
    sys.exit()

tax = None
if age<=60:
    if income <= 250000:
        tax = 0
    elif income <= 500000:
        tax = 10
    elif income <= 1000000:
        tax = 20
    else:
        tax = 30
elif age<=80:
    if income <= 300000:
        tax = 0
    elif income <= 500000:
        tax = 10
    elif income <= 1000000:
        tax = 20
    else:
        tax = 30
elif age<=100:
    if income <= 500000:
        tax = 0
    elif income <= 1000000:
        tax = 20
    else:
        tax =  30
```

```
print("The Tax amount is: %.2f" % round(income*tax/100, 2))
```

7. News Report Generation

```
import sys

def checkInput(c):
    if(c<0):
        print("Invalid input")
        sys.exit()

dead_count = int(input("Dead Count:\n"))
checkInput(dead_count)

injured_count = int(input("Injured Count:\n"))
checkInput(injured_count)

safe_count = int(input("Safe Count:\n"))
checkInput(safe_count)

report = f"""
TSUNAMI REPORT OF JAPAN
The number of people
Dead:{dead_count}
Injured:{injured_count}
Safe:{safe_count}

Please help the people who are suffering!!!
"""
print(report)
```

8. Palindrome

```
string = input("Enter the word: ")
string = string.lower()
string = string.replace(' ', '')
if(string==string[::-1]):
     print("Yes, the string is a palindrome !")
else:
     print("No, the string is not a palindrome !")
```

9. Pass or Fail

```
import sys

n = int(input("Enter the no. of subjects: "))
if n<=0:
     print("Invalid no. of subjects")
     sys.exit()

pass_count  =  0
fail_count   =  0
print("Enter the marks:")
for i  in range(n):
     mark = int(input())
     if mark  not  in  range(0,101):
          print("Invalid mark")
          sys.exit()
     if mark>50:
          pass_count+=1
     else:
          fail_count+=1
```

```
print("No. of subjects passed:", pass_count)
print("No. of subjects failed:", fail_count)
```

10. Password Protection

```
import sys

n = int(input("Enter the total no.of plots: "))
if n not in range(1,21):
    print("Invalid Input")
    sys.exit()

plots = []
print("Enter the numbers of each plot:")
for i in range(n):
    num = int(input())
    if num<=0:
        print("Invalid Input")
        sys.exit()
    plots.append(num)

avg = sum(plots)/2
print("The password for the file is: %.2f" % round(avg, 2))
```

11. Rhythm Composer

```
def find_prime(start, end):
    primes = []
    for num in range(start, end+1):
        if num==1:
            continue
        for i in range(2,num//2+1):
            if(num%i==0):
                break
        else:
            primes.append(num)
    return primes

start = int(input())
end = int(input())

ifstart<0orend<0orstart>end:
    print("Invalid range")
elif start==end or (start==0 and end==1):
    print("There is no prime numbers in this range")
else:
    primes=find_prime(start, end)
    if len(primes)!=0:
        for prime in primes:
            print(prime,end=' ')
    else:
        print("There is no prime numbers in this range")
```

12. Search Student Data

```
n = int(input("Enter the no of student details to be created : "))
student_details = []
for i in range(n):
    name = input("Name: ")
    age = int(input("Age: "))
    location = input("Location: ")
    student_details.append({'Name': name, 'Age': age, 'Location': location})

print("\nHere's the list of student details : ")
```

```
for student_detail in student_details:
    print(student_detail)

count = 0
search_location = input("\nEnter the training lcoation: ")
for student_detail in student_details:
    if (student_detail['Location'] == search_location):
        if (count == 0):
            print("Student(s) enrolled in this training location: ")
        print(student_detail['Name'])
        count += 1
if(count == 0):
    print("Invalid location")
```

13. Store Student Data

```
n = int(input("Enter number of students: "))

details = ""
for i  in range(n):
    print("\nFor  student",i+1)
    name = input("Enter name: ")
    score = input("Enter the score: ")
    details += 'Name: ' + name + ' Score: '+ score + '\n'

file = open('output_data.txt','w')
file.write(details)
file.close()
```

14. Time Table Planning

```python
from date import *

year = int(input("Enter year as 4 digits (e.g: 2002):"))
monthNo = int(input("Enter month number:"))

print("Year:", "Leap Year" if is_leap(year) else "Not Leap Year")
print("Month Name:", month_name(monthNo))
print("Days in month:", days_in_month(monthNo, year))
```

Module date.py

```python
import  calendar

def is_leap(year):
    return calendar.isleap(year)

def  month_name(no):
    return calendar.month_name[no]

def days_in_month(month, year):
    return  calendar.monthrange(year,  month)[1]
```