



INFORMATICS  
INSTITUTE OF  
TECHNOLOGY

UNIVERSITY OF  
WESTMINSTER<sup>®</sup>

# *4COSC001W* Software Development

**Module Leader: Mr. Saman Hettiarachchi**

## **Course Work**

Sandeepa Sewwandi Perera  
IIT ID - 2017184  
W1673745

## Table of Contents

Introduction.....	1
Code .....	2
Part 1.....	2
Part 2.....	2
Part 3.....	3
Part 4.....	5
APPENDIX.....	8
APPENDIX 1 – TEST PLAN for Part 1 & 2 .....	8
APPENDIX 2 – TEST PLAN for Part 3 & 4 - (Staff Version with Histogram) .....	9

## Introduction

This course work under Software Development subject in Level 4. There have The University requires a program to predict progression outcomes at the end of each academic year. This is a python program. The Progression outcomes as defined by the University regulations. There have main four parts.

## Code

### Part 1

#Software Development - Course Work part 1

```
c_pass=int(input("Please enter your credit at pass : ")) #Get credits at pass
defer=int(input("Please enter your credit at defer : ")) #Get credits at defer
fail=int(input("Please enter your credit at fail : ")) #Get credits at fail
    #progress
if (c_pass==120 and defer==0 and fail==0):
    print("Progress")
    #progress and module trailer
elif (c_pass==100 and (defer +fail)==20):
    print("Progress (module trailer)")

    #Do not Progress-module retriever
elif ((c_pass + defer )<=120 and fail<=60):
    print("Do not Progress-module retriever")

elif ((c_pass + defer )<=40 and (80<=fail<=120)): #Exclude
    print("Exclude")

    #Invalid Inputs
else:
    print ("Invalid Inputs")
```

### Part 2

#Software Development - Course Work part 11

```
def credits():
    #using while loop for make a loop
    while True:

        try:
            #get credits at pass
            credit=int(input("Please enter your credit at pass : "))
            if (credit==0 or credit==20 or credit==40 or credit==60 or credit==80 or credit==100 or
credit==120):

                #get credits at defer
                defer=int(input("Please enter your credit at defer : "))
                if (defer==0 or defer==20 or defer==40 or defer==60 or defer==80 or defer==100 or
defer==120):

                    #get credits at fail
                    fail=int(input("Please enter your credit at fail : "))
                    credit_total=(credit+defer+fail)
                    if (fail==0 or fail==20 or fail==40 or fail==60 or fail==80 or fail==100 or fail==120):
                        if (credit_total>=120): # check total

                            if (credit==120 and defer==0 and fail==0):
                                print("Progress")
```

```
                                #progress and module trailer
elif (credit==100 and (defer +fail)==20):
    print("Progress (module trailer)")

                                #Do not Progress-module retriever
elif ((credit + defer )<=120 and fail<=60):
    print("Do not Progress-module retriever")

elif ((credit + defer )<=40 and (80<=fail<=120)): #Exclude
    print("Exclude")

else:
    print("Total incorrect") # if total check wrong print statement

else:
    print ("Out of range")
else:
    print ("Out of range")
else:
    print ("Out of range")

except:
    print("Integer required")
    continue    # after the comments loop will continueing

credits()
```

### Part 3

#Software Development - Course Work part 111

```
count1=0
count2=0
count3=0
count4=0
total=0
cont=0
defer=0
credit=0
fail=0

def credits():
    global credit
    global defer
    global fail
    global credit_total

    try:
        #get credits at pass
        credit=int(input("Please enter your credit at pass : "))
        if (credit==0 or credit==20 or credit==40 or credit==60 or credit==80 or credit==100 or
            credit==120):

            #get credits at defer
```

```
defer=int(input("Please enter your credit at defer : "))
if (defer==0 or defer==20 or defer==40 or defer==60 or defer==80 or defer==100 or
defer==120):

    #get credits at fail
    fail=int(input("Please enter your credit at fail : "))
    credit_total=(credit+defer+fail)
    if (fail==0 or fail==20 or fail==40 or fail==60 or fail==80 or fail==100 or fail==120):

        if (credit_total>120):    # cheack total
            print("Incorrect Total")

        else:
            print ("Out of Range")

    else:
        print("Out of Range")
        b

    else:
        print("Out of Range")

except:
    print("Integer required")

credits()

credit_total=(credit+defer+fail)

while True:

    if (credit==0 or credit==20 or credit==40 or credit==60 or credit==80 or credit==100 or
credit==120):
        if (defer==0 or defer==20 or defer==40 or defer==60 or defer==80 or defer==100 or
defer==120):
            if (fail==0 or fail==20 or fail==40 or fail==60 or fail==80 or fail==100 or fail==120):
                if (credit_total<=120):

                    if (credit==120 and defer==0 and fail==0):
                        print("Progress")
                        count1+=1

                                #progress and module trailer
                    elif (credit==100 and (defer +fail)==20):
                        print("Progress (module trailer)")
                        count2+=1

                                #Do not Progress-module retriever
                    elif ((credit + defer )<=120 and fail<=60):
                        print("Do not Progress-module retriever")
                        count3+=1

                    elif ((credit + defer )<=40 and (80<=fail<=120)): #Exclude
                        print("Exclude")
                        count4+=1
```

```
cont=input("Would you like to enter another set of data?\nEnter 'y' for yes or 'q' to quit  
and view results: ")
```

```
if cont=="y":  
    credits()  
else:  
    print("Progress",count1,":", "*" * count1)  
    print("Progress",count2,":", "*" * count2)  
    print("Progress",count3,":", "*" * count3)  
    print("Progress",count4,":", "*" * count4)  
  
    total=(count1+count2+count3+count4)  
    print("")  
  
    print(total," outcomes in total")  
  
    break
```

## Part 4

#Software Development - Course Work part 1111

```
count1=0  
count2=0  
count3=0  
count4=0  
total=0  
cont=0  
defer=0  
credit=0  
fail=0
```

```
def credits():  
    global credit  
    global defer  
    global fail  
    global credit_total
```

```
try:  
    #Get credits at pass  
    credit=int(input("Please enter your credit at pass : "))  
    if (credit==0 or credit==20 or credit==40 or credit==60 or credit==80 or credit==100 or  
credit==120):
```

```
        #Get credits at defer  
        defer=int(input("Please enter your credit at defer : "))  
        if (defer==0 or defer==20 or defer==40 or defer==60 or defer==80 or defer==100 or  
defer==120):
```

```
            #Get credits at fail  
            fail=int(input("Please enter your credit at fail : "))  
            credit_total=(credit+defer+fail)  
            if (fail==0 or fail==20 or fail==40 or fail==60 or fail==80 or fail==100 or fail==120):
```

```
        if (credit_total>120): #check total
            print("Incorrect Total")

        else:
            print ("Out of Range")

        else:
            print("Out of Range")
            b
    else:
        print("Out of Range")

except:
    print("Integer required")

credits()

credit_total=(credit+defer+fail)

while True:

    if (credit==0 or credit==20 or credit==40 or credit==60 or credit==80 or credit==100 or
        credit==120):

        if (defer==0 or defer==20 or defer==40 or defer==60 or defer==80 or defer==100 or
            defer==120):

            if (fail==0 or fail==20 or fail==40 or fail==60 or fail==80 or fail==100 or fail==120):
                if (credit_total<=120):

                    if (credit==120 and defer==0 and fail==0):
                        print("Progress")

                        count1+=1

                                #progress and module trailer
                    elif (credit==100 and (defer +fail)==20):
                        print("Progress (module trailer)")
                        count2+=1

                                #Do not Progress-module retriever
                    elif ((credit + defer )<=120 and fail<=60):
                        print("Do not Progress-module retriever")
                        count3+=1

                    elif ((credit+ defer )<=40 and (80<=fail<=120)): #Exclude
                        print("Exclude")
                        count4+=1

            cont=input("Would you like to enter another set of data?\nEnter 'y' for yes or 'q' to quit
and view results: ")

            if cont=="y":
                credits()

        else:
            total=(count1+count2+count3+count4)
```

```
print("Progress",count1,"|","Trailer",count2,"|","Retriver",count3,"|","Exclude",count4)
for row in range(max(count1,count2,count3,count4)):
```

```
    for col in range (4):
```

```
        if count1!=0:
            print(" ", "*",end=" ")
```

```
            count1=count1-1
```

```
        else:
            print(" ",end=" ")
```

```
        if count2!=0:
            print(" ", "*",end=" ")
```

```
            count2=count2-1
```

```
        else:
            print(" ",end=" ")
```

```
        if count3!=0:
            print(" ", "*",end=" ")
```

```
            count3=count3-1
```

```
        else:
            print(" ",end=" ")
```

```
        if count4!=0:
            print(" ", "*",end=" ")
```

```
            count4=count4-1
```

```
        else:
            print(" ",end=" ")
```

```
print("")
```

```
print(total," outcomes in total")
```

```
break
```



## APPENDIX

## APPENDIX 1 – TEST PLAN for Part 1 &amp; 2

Student Name: <b>Sandeepa Perera</b> Student ID: <b>2017184</b>				
TEST PLAN for Part 1				
Submit completed test plan with your code solution				
Test No.	Test Input	Expected Result	Actual Result (or state 'not attempted')	Pass / Fail (('Actual Result' matches 'Expected Result'))
1	Pass = 120 Defer = 0 Fail = 0	'Progress' is displayed	yes	Pass
2	Pass = 100 Defer = 20 Fail = 0	'Progress (module trailer)' is displayed	yes	Pass
3	Pass = 100 Defer = 0 Fail = 20	'Progress (module trailer)' is displayed	yes	Pass
4	Pass = 80 Defer = 20 Fail = 20	'Do not Progress – module retriever' is displayed	yes	Pass
5	Pass = 60 Defer = 40 Fail = 20	'Do not Progress – module retriever' is displayed	yes	Pass
6	Pass = 40 Defer = 40 Fail = 40	'Do not Progress – module retriever' is displayed	yes	Pass
7	Pass = 20 Defer = 40 Fail = 60	'Do not Progress – module retriever' is displayed	yes	Pass
8	Pass = 20 Defer = 20 Fail = 80	'Exclude' is displayed	yes	Pass
9	Pass = 20 Defer = 0 Fail = 100	'Exclude' is displayed	yes	Pass
10	Pass = 0 Defer = 0 Fail = 120	'Exclude' is displayed	yes	Pass
TEST PLAN for Part 2				
11	Pass = a	'Integer required' displayed	yes	Pass
12	Pass = 5	'Out of range' displayed	yes	Pass
13	Pass = 100 Defer = 40 Fail = 0	'Total incorrect' displayed		

## APPENDIX 2 – TEST PLAN for Part 3 &amp; 4 - (Staff Version with Histogram)

TEST PLAN for Part 3				
Submit this completed test plan with your solution code				
Test No.	Test Input	Expected Result	Actual Result (or 'not attempted')	Pass/Fail
14	Pass = 120 Defer = 0 Fail = 0	'Progress' is displayed	yes	Pass
15	Pass = 100 Defer = 20 Fail = 0	'Progress (module trailer)' is displayed	yes	Pass
16	Pass = 100 Defer = 0 Fail = 20	'Progress (module trailer)' is displayed	yes	Pass
17	Pass = 80 Defer = 20 Fail = 20	'Do not Progress – module retriever' is displayed	yes	Pass
18	Pass = 60 Defer = 20 Fail = 40	'Do not Progress – module retriever' is displayed	yes	Pass
19	Pass = 40 Defer = 80 Fail = 0	'Do not Progress – module retriever' is displayed	yes	Pass
20	Pass = 40 Defer = 40 Fail = 40	'Do not Progress – module retriever' is displayed	yes	Pass
21	Pass = 20 Defer = 20 Fail = 80	'Exclude' is displayed	yes	Pass
Displaying Histogram				
22	Enter 'q' to quit	Exits loop	yes	Pass
23	Exit loop	Progress 1 : * Trailer 2 : ** Retriever 4 : **** Excluded 1 : * 8 outcomes in total	yes	Pass
TEST PLAN for Part 4				
24	Use test data from Part 3 TEST plan 14-21			
25	Enter 'q' to quit / Exit loop	Expected result Progress 1   Trailer 2   Retriever 4   Exclude 1 *            *            *            * *            *            * * * 8 outcomes in total	Actual Result yes	Pass/Fail Pass

- THANK YOU -