**Practical 01**

**Temperatures：**

*"""  
CP1404/CP5632 - Practical  
Pseudocode for temperature conversion  
"""*MENU = """C - Convert Celsius to Fahrenheit  
F - Convert Fahrenheit to Celsius  
Q - Quit"""  
print(MENU)  
choice = input(">>> ").upper()  
while choice != "Q":  
 if choice == "C":  
 celsius = float(input("Celsius: "))  
 fahrenheit = celsius \* 9.0 / 5 + 32  
 print("Result: {:.2f} F".format(fahrenheit))  
 elif choice == "F":  
 fahrenheit = float(input("fahrenheit: "))  
 celsius = 5 / 9 \* (fahrenheit - 32)  
 print("Result: {:.2f} C".format(celsius))  
 # *TODO: Write this section to convert F to C and display the result* # Hint: celsius = 5 / 9 \* (fahrenheit - 32)  
 # Remove the "pass" statement when you are done. It's a placeholder.  
  
 else:  
 print("Invalid option")  
 print(MENU)  
 choice = input(">>> ").upper()

**Sales\_bonus:**

*"""  
Program to calculate and display a user's bonus based on sales.  
If sales are under $1,000, the user gets a 10% bonus.  
If sales are $1,000 or over, the bonus is 15%.  
"""*sales = float(input("Enter sales: $"))  
  
while sales >= 0:  
 if sales < 1000:  
 bonus = sales \* 0.1  
 print("Your bonus will be $",bonus)  
 sales = float(input("Enter sales: $"))  
 else:  
 bonus = sales \* 0.15  
 print("Your bonus will be $",bonus)  
 sales = float(input("Enter sales: $"))

**Broken\_Score:**

*"""  
CP1404/CP5632 - Practical  
Broken program to determine score status  
"""*# *TODO: Fix this!*score = float(input("Enter score: "))  
if score < 0:  
 print("Invalid score")  
else:  
 if score > 100:  
 print("Invalid score")  
 elif 90 <= score <= 100:  
 print("Excellent")  
 elif 50 <= score < 90:  
 print("Passable")  
 elif score < 50:  
 print("Bad")

**Loops:**

for i in range(1, 21, 2):  
 print(i, end=' ')  
print()  
  
for i in range(0, 100, 10):  
 print(i, end=' ')  
print()  
  
for i in range(20, 0, -1):  
 print(i, end=' ')  
print()  
  
number = int(input("number of stars:"))  
for i in range(number):  
 print("\*", end="")  
print()  
  
for i in range(0, number):  
 for j in range(0, i + 1):  
 print("\*", end=' ')  
 print("\r")

**Shop\_Calculator:**

number\_of\_items = int(input("Enter the number of items: "))  
print("Number of items:", number\_of\_items)  
  
total = 0  
for i in range(number\_of\_items):  
 price = float(input("price of item: "))  
 total += price  
  
 if total > 100:  
 total = total \* 0.9  
  
print("Total price for",number\_of\_items,"is ${:.2f}".format(total))

**Menus:**

name = str(input("Enter name: "))  
  
MENU = """(H)ello  
(G)oodbye  
(Q)uit"""  
print(MENU)  
  
choice = input(">>> ").upper()  
while choice != "Q":  
 if choice == "H":  
 print("Hello", name)  
 choice = input(">>> ").upper()  
 elif choice == "G":  
 print("Goodbye", name)  
 choice = input(">>> ").upper()  
 else:  
 print("Invalid choice.")  
 choice = input(">>> ").upper()  
  
while choice == "Q":  
 print("Finished")  
 break

**Electricity\_bill:**

print("Electricity bill estimator 2.0")  
  
tariff = int(input("Which tariff? 11 or 31:"))  
daily\_use\_in\_kWh = float(input("Enter daily use in kWh:"))  
billing\_days = int(input("Enter number of billing days:"))  
  
TARIFF\_11 = 0.244618  
TARIFF\_31 = 0.136928  
  
if tariff == 11:  
 bill\_11 = TARIFF\_11 \* daily\_use\_in\_kWh \* billing\_days  
 print("Estimated bill: ${:.2f}".format(bill\_11))  
elif tariff == 31:  
 bill\_31 = TARIFF\_31 \* daily\_use\_in\_kWh \* billing\_days  
 print("Estimated bill:${:.2f}".format(bill\_31))

**Sequences:**

MENU = """(E)ven Numbers  
(O)dd Numbers  
(S)quares  
(Q)uit"""  
print(MENU)  
  
choice = input(">>> ").upper()  
  
odd\_nums = []  
even\_nums = []  
  
while choice != "Q":  
  
 if choice == "E":  
 num1 = int(input("Number 1:"))  
 num2 = int(input("Number 2:"))  
  
 for i in range(num1, num2):  
 if i % 2 == 0:  
 even\_nums.append(i)  
 else:  
 odd\_nums.append(i)  
 print("Even numbers are:",even\_nums)  
 print(MENU)  
  
 choice = input(">>> ").upper()  
  
 elif choice == "O":  
 num1 = int(input("Number 1:"))  
 num2 = int(input("Number 2:"))  
  
 for i in range(num1, num2):  
 if i % 2 == 0:  
 even\_nums.append(i)  
 else:  
 odd\_nums.append(i)  
 print("Odd numbers are:",odd\_nums)  
  
 print(MENU)  
 choice = input(">>> ").upper()  
  
 elif choice == "S":  
 num1 = int(input("Number 1:"))  
 num2 = int(input("Number 2:"))  
  
 for i in range(num1, num2):  
 print(i \*\* 2,end=",")  
  
 print(MENU)  
 choice = input(">>> ").upper()  
  
 else:  
 print("Invalid choice.")  
  
 print(MENU)  
 choice = input(">>> ").upper()  
  
while choice == "Q":  
 print("Finished")  
 break