Exam-style questionsin Chapter 13

1

```
OUTPUT "Ounces       Grams"
FOR Ounces ← 1 TO 30
   Grams ←Rounded(Ounces * 28.35)// whole number of grams
only
   OUTPUT Ounces, Grams
ENDFOR
```

Python

```
# Ounces : int
# Grams : int
print('Ounces       Grams')
for Ounces in range(1, 31):
   Grams = round(Ounces * 28.35) # whole number of
grams only
   print("{0:>4}{1:>13}".format(Ounces, Grams))
```

2

Python

```
# UserID : str
# valid : bool
UserID = input('Enter your user ID: ')
if len(UserID) != 5:
   valid = False
else:
   valid = True
   for Char in range(3):
      if UserID[Char] < 'A' or UserID[Char] > 'Z':
         valid = False
   for Char in range(3,5):
      if UserID[Char] < '0' or UserID[Char] > '9':
         valid = False

if valid:
   print("valid")
else:
   print("not valid")
```

3

```
Initialise Tally array
REPEAT
INPUT Choice // 1 for Reading, 2 for computer games,
                // 3 for Sport, 4 for Programming, 5 for TV
// 0 to end input
Increment Tally[Choice]
UNTIL Choice = 0
FOR Index = 1 TO 5
   OUTPUT Tally[Index]
ENDFOR
```

Python

```
# Tally : int array  [1:5]
# Hobbytitle : str array [1:5]
# Choice : int
# Index : int
# FileHandle : text file channel
```

```
# TextLine : str
# DigitString : str

# (a) declare and initialise Tally
Tally = [0,0,0,0,0,0,0]

# (c) store hobby titles
HobbyTitle = ['','Reading books','Playing computer
games', 'Sport', 'Programming', 'Watching TV']

# (e) to read existing data from file
FileHandle = open("Tally.TXT", "r")
for Index in range(6):
TextLine = FileHandle.readline()   # read next line
DigitString = TextLine.strip('\n') # strip newline
character
   Tally[Index] = int(DigitString)    # convert str to
int
FileHandle.close()

# (b) main part of program
Choice = int(input('Enter your favourite hobby: '))
while Choice != 0:
   Tally[Choice] += 1
   Choice = int(input('Enter your favourite hobby: '))
for Index in range(1,6):
   print("{0:<24}{1:>5}".format(HobbyTitle[Index],
Tally[Index]))

# (d) save tally data to file
FileHandle = open("Tally.TXT", "w")
for Index in range(6):
FileHandle.write(str(Tally[Index]) + "\n")
FileHandle.close()
```