

Grade 10 – Unit 5 – Answer keys

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Activity 1

1.

Case	Description
a list containing all the days of the week	<code>weekDays = ["Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday"]</code>
a list containing the names of five students in your class	<code>Classmates = ["Mahmoud", "Qasem", "Ali", "Linda", "Esraa"]</code>
a list of the ages of the five students in your class	<code>[15, 12, 16, 17, 16]</code>
a list containing your first name, last name, age, town and height in metres	<code>["Maya", "Muhammad", 23, "Khorfakkan", 1.63]</code>
a list of popular brands of shoes	<code>["Clarks", "Adidas", "Gucci", "Miu Miu", "Shuh"]</code>
the first seven letters of the alphabet	<code>["a", "b", "c", "d", "e", "f", "g"]</code>
a list of any six currency symbols	<code>["K", "¥", "\$", "€", "£", "Dhs"]</code>

2.

Element	Value
<code>fruits[5]</code>	<code>apple</code>
<code>fruits[1]</code>	<code>cherry</code>
<code>fruits</code>	<code>plum, cherry, mango, grape, date, apple</code>
<code>fruits[17]</code>	<code>error</code>
<code>fruits[3]</code>	<code>grape</code>
<code>Fruits[2]</code>	<code>mango</code>

3.

Element	Setting the value
change the plum to orange	<code>fruits[0] = "orange"</code>
replace the date with a banana	<code>fruits[4] = "banana"</code>
let the user enter a fruit name to change the value of cherry	<code>fruits[1] = input("Enter the fruit name")</code>
change the value in fruits[8] to lemon	<code>error</code>
replace the grape with avocado	<code>fruits[4] = "avocado"</code>

4.

```
1 periodicTableI=["Hydrogen", "Helium", "Lithium",  
2 "Berylium", "Carbon", "Nitrogen", "Oxygen", "Fluorine"]  
3  
4 print(periodicTableI[2], periodicTableI[6])  
5
```

5.

```
1 carDetails = ["car", "Mercedes", 1977, "X2345",  
2 "Sharjah", 1.8, "green"]  
3  
4 print(carDetails)  
5  
6 for detail in carDetails:  
7     print(detail)  
8
```

Activity 2

1.

Case	What would you use?			
	for loop	while loop	append() function	create a full list at the start
Entering a list of grades achieved by Grade 10 students on a Computer Science quiz		X	X	
Printing a list of all Grade 10 students' names one at a time	X			
Updating in a list the monthly high scores for a game			X	
Setting a list of comments entered by your followers on Instagram		X	X	
Updating a list of travellers passing through Dubai International Airport		X	X	
Printing the results from a coding competition	X			

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2.

```
1 oddNums = []
2
3 for x in range(153, -78, -2):
4
5     oddNums.append(x)
6
7
8 print(oddNums)
```

3.

```
1  students = []
2
3  finished = "n"
4
5  while finished != "y":
6
7      student = input("Enter a student's name:")
8      students.append(student)
9
10
11     finished = input("Finished? (y/n) ")
12
13
14 for name in students:
15     print(name)
16
17 print("+++++++Done+++++")
18
```

4.

```
1  from random import randint
2
3  randNumbers = []
4
5  for i in range(0, 10, 1):
6      randNum = randint(-100, 100)
7      randNumbers.append(randNum)
8
9
10 print("The list is:", randNumbers)
11 smallest = min(randNumbers)
12 largest = max(randNumbers)
13
14
15 index = 0
16 while smallest != randNumbers[index]:
17     index = index + 1
18 print("The smallest number is at:", index)
19
20
21 index = 0
22 while largest != randNumbers[index]:
23     index = index + 1
24 print("The largest number is at:", index)
25
26 print("=====Complete=====")
27
28
```

Activity 3

1.

Scenario	Statement
create a list to contain the last three elements from transport	<i>transp = transport[2:5]</i>
create a new list with only the last element from clothes	<i>cloth=clothes[4] OR cloth1=clothes[- 1]</i>
create a new list that combines clothes and headCov	<i>clothandCov = clothes + headCov</i>
create a new list that repeats the transport list two times	<i>doubleTransp = transport * 2</i>
create a copy of the headCov list	<i>copyHeadCov = headCov.copy()</i>
create a new list that combines the first two elements from clothes and the last three elements from headCov	<i>combClothCov2 = clothes[0:2] + headCov[3:6]</i>

Activity 4

1.

Question	Python Statement
How can you open a file called scores.txt so you can save the output from your program?	<code>outfile = open("scores.txt", "w")</code>
Write down the statement to check if Khalid is in a list called pupils .	<code>"Khalid" in pupils</code>
Write a statement to close the scores.txt file.	<code>outfile.close()</code>
How can you open a file called markup.txt for output? You do not want to overwrite the existing file.	<code>outfile2 = open("markup.txt", "a")</code>
How can you open a file called holidays.txt to read data from?	<code>infile = open("holidays.txt", "r")</code>
What statement would you use to find out the length of the list called pupils ?	<code>len(pupils)</code>
Can you write a statement to remove Eman from the pupils list?	<code>del(pupils[2])</code>

2.

```
1  mount = open("mountains.txt", "r")
2  #We introduce a new function here splitlines(), otherwise
3  #you will only get chars
4  allMountains = mount.read()
5  allLines = allMountains.splitlines()
6
7  for i in range(0, 5, 1):
8      print(allLines[i])
9
10
11  mount.close()
12  print("====Complete====")
```

3.

```
1  #1m = 3.28ft
2  feetM = 3.28
3  heightsFeet = [29029, 28251, 28169, 27940, 27838, 26906,
4  26795, 26781, 26660, 26545, 26509, 26414, 26362, 26335]
5
6  outfile = open("mountheights.txt", "w")
7  heightsMetre = []
8  for heightF in heightsFeet:
9      heightM = heightF / feetM
10     heightM = round(heightM, 2)
11     heightsMetre.append(heightM)
12
13 heightsMetre = str(heightsMetre)
14 outfile.write(heightsMetre)
15 outfile.close()
16
17 print("=====Halas=====")
18
```

End of unit activities

1.

```
1 subjects = ["Computer science", "CDI", "Business",  
2 "Physics", "Math"]  
3 print("My favourite subject is", subjects[0], "and",  
4 subjects[3])  
5
```

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2.

```
1 placesToVisit = []  
2 finish = "no"  
3  
4 while finish == "no":  
5     place = input("Where would you like to visit? ")  
6     placesToVisit.append(place)  
7     finish = input("Are you finished?")  
8  
9  
10 length = len(placesToVisit)  
11  
12 for i in range(1, length - 1):  
13     print(placesToVisit[i])  
14
```

3.

```
1  from random import shuffle
2
3  playlist = ["Song1", "Song2", "Song3", "Song4", "Song5"]
4  shuffle(playlist)
5  print(playlist)
6
7
8
9
```