**Computer Practical**

Python: Grade 12

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*12 A*

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# Chapter 1: Python Revision Tour

## Solved Problems (pg 36)

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| 22 | **Question:** Write a program that asks the user to input number of seconds and then expresses it in terms of many minutes and seconds it contains. |
| **Code:**  total\_seconds = int(input("Number of Seconds: "))  minutes = total\_seconds//60  seconds = total\_seconds%60  print(total\_seconds, "is", minutes, "minutes and", seconds, "seconds.") |
| **Output:**  Number of Seconds: 393  393 is 6 minutes and 33 seconds. |
| 23 | **Question:** Write a program that repeatedly asks from users some numbers until string ‘done’ is typed. The program should print the sum of all numbers entered. |
| **Code:**  num\_sum = 0  while True:      num = input("Number to be added (or 'done' to stop): ")      if num=='done':          break      else:          num = int(num)      num\_sum += num  print("Sum of the numbers inputted:", num\_sum) |
| **Output:**  Number to be added (or 'done' to stop): 13  Number to be added (or 'done' to stop): 2  Number to be added (or 'done' to stop): -5  Number to be added (or 'done' to stop): done  Sum of the numbers inputted: 10 |
| 24 | **Question:** Write a program to print a square multiplication table as shown below |
| **Code:**  hor = input("Horizontal Width of Multiplication Table (default=10): ")  ver = input("Vertical Height of Multiplication Table (default=10): ")  if not hor:      hor=10  if not ver:      ver=10  max\_spaces = len(str(hor\*ver))  for i in range(1, ver+1):      for j in range(i, hor\*i+1, i):          print(j, end=' '\*(max\_spaces-len(str(j))))      print() |
| **Output:**  Horizontal Width of Multiplication Table (default=10):  Vertical Height of Multiplication Table (default=10):  1 2 3 4 5 6 7 8 9 10  2 4 6 8 10 12 14 16 18 20  3 6 9 12 15 18 21 24 27 30  4 8 12 16 20 24 28 32 36 40  5 10 15 20 25 30 35 40 45 50  6 12 18 24 30 36 42 48 54 60  7 14 21 28 35 42 49 56 63 70  8 16 24 32 40 48 56 64 72 80  9 18 27 36 45 54 63 72 81 90  10 20 30 40 50 60 70 80 90 100 |

## Type C

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| 1 | **Question:** Write a program to print one of the words negative, zero or positive, according to whether variable x is less than zero, zero or greater than zero, respectively. | | | |
| **Code:**  x = int(input("Number: "))  print(x, "is", end=" ")  if x<0:      print("negative (less than 0).")  elif x==0:      print("zero (0).")  else:      print("positive (greater than 0).") | | | |
| **Output:** | | | |
| Number: 7  7 is positive (greater than 0). | Number: 0  0 is zero (0). | | Number: -3  -3 is negative (less than 0). |
| 3 | **Question:** Write a Python program that calculates and prints the number of seconds in a year | | | |
| **Code:**  num\_years = 1  num\_days = num\_years\*365  num\_hours = num\_days\*24  num\_minutes = num\_hours\*60  num\_seconds = num\_minutes\*60  print("Number of seconds in", num\_years, "years is", num\_seconds) | | | |
| **Output:**  Number of seconds in 1 years is 31536000 | | | |
| 5 | **Question:** Write a program that asks the user the day number in a year in the range 2 to 365 and asks the first day of the year – Sunday, Monday, Tuesday, etc. Then the program should display the day on the day-number that has been inputted. | | | |
| **Code:**  first\_day\_str = input("First day of the year (in lowercase): ")  date = int(input("Which day number of the year do you want to know the day of (2 to 365): "))  first\_day=0  if first\_day\_str=="monday":  first\_day=1  elif first\_day\_str=="tuesday":  first\_day=2  elif first\_day\_str=="wednesday":  first\_day=3  elif first\_day\_str=="thursday":  first\_day=4  elif first\_day\_str=="friday":  first\_day=5  elif first\_day\_str=="saturday":  first\_day=6  day\_num = (first\_day + date - 1) % 7  day = "Sunday"  if day\_num == 1:  day = "Monday"  elif day\_num == 2:  day = "Tuesday"  elif day\_num == 3:  day = "Wednesday"  elif day\_num == 4:  day = "Thursday"  elif day\_num == 5:  day = "Friday"  elif day\_num == 6:  day = "Saturday"  print(date, "day of the year with the first day", first\_day\_str, "is", day) | | | |
| **Output:**  First day of the year (in lowercase): tuesday  Which day number of the year do you want to know the day of (2 to 365): 19  19 day of the year with the first day tuesday is Saturday | | | |
| 7 | **Question:** Write a program that reads and integer N from the keyboard comptu8es and displays the sum of the numbers from N to 2\*N if N is non negative. If N is a negative number, then it’s the sum of the numbers from 2\*N to N. The starting and ending points are included in the sum. | | | |
| **Code:**  N = int(input("integer N: "))  sum=0  if N>=0:      for i in range(N, 2\*N+1):          sum+=i  else:      for i in range(2\*N, N+1, ):          sum+=i  print(sum) | | | |
| **Output:** | | | |
| integer N: -4  -30 | | integer N: 8  108 | |

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