

**Problem Statement\_ Conquer C**

**Many people love challenges. There is a flyer about treasure hunt with great rewards. Interested parties visit to enroll in the competition. They are asked to do the following**

1. **Enter your name(maximum 25 characters) and birthdate in the format dd/mm/yyyy. (If the date is entered in any other format, they are prompted until they follow the format)**
2. **If you are less than 18 years of age, then they inform “You are not eligible right now- Try again after you complete 18 years”.**
3. **If your age is 18 years or more, youmust pass a maze of rooms until final room is visited where the prize is disclosed.**

**NOTE: Since it is a maze at no time you can exit once race starts until you reach destination, and which is your only exit.**

**In first room youare given a pot containing chits with numbers written. You must pick 5 numbers from them. Once youget it, the room supervisor asks you to handover 2nd and 3rd largest numbers from your pick.**

**There is a condition that “you can look at all those numbers only once.”**

**Also, the numbers may repeat**

**Ex: 4 2 4 6 3 Ans: 4 and 3**

**Ex: 1 1 1 1 1 Ans: No second and 3rd largest**

**Ex: 2 1 1 1 -1 Ans: Second largest is 1 and -1 is third largest**

**Then youvisitroom number 2 with the same 5 numbers. In this you are asked to use these numbers as directions to press elevator buttons for up and down alternatively, starting from ground floor(floor 0). After you complete, you must call supervisor to mention which floor youare in.**

**Ex: if numbers are 2 3 2 4 1, then youend up in 2 floors below ground in basement.**

**Ex: if numbers are 2 2 2 2 2, then youend up in 2 floors above ground floor.**

**Ex: if numbers are 4 2 4 6 3, then youend up in 3 floors above ground floor.**

**Youtakethe second largest number from room 1 to room 3. Youare given a task to find alternate prime numbers up to the second largest number.**

**Ex: if second largest number is 10, then yougenerate 2, 5.**

**Ex: if second largest number is negative or there was no second largest number, then message , “SORRY can’t generate “. Hence take an input ‘n’ and generate n-prime numbers.**

**Ex: n=3 o/p=2, 3, 5**

**Ex: n=5 o/p=2, 3, 5,7,11**

**Ex: n=-20 or n=0 , prompt please enter again until a valid number is entered for generating prime numbers.**

**Youare asked to take these numbers to next room.**

**In room number 4, youare asked to add all the numbers you carried from room number 3. Once you did this, you must find whether the absolute value of total sum is a number that appears either immediately before or after Fibonacci series?**

**Ex: If the number is 20, then the answer is “Appears before Fibonacci number”**

**Ex: If the number is 10, then the answer is “Doesn’t appear before or after Fibonacci number”**

**Ex: if number is 145, then the answer is “Appears after Fibonacci number”**

**After this you are directed to room number 5,with this absolute sum(call it ‘m’)**

**In room number 5, youare given series**

**1 , 1, 4, 8, 9, 27, 16…**

**Now youmustgenerate ‘m’ terms of the series and find the mth term.**

**Ex: m==1 or 2 Ans=1**

**Ex: m==6 Ans=27**

**Ex: m==10 Ans= ?**

**Then youmove to room number 6 with Ans.**

**In room number 6, you are asked to write down all generated numbers in room number 5 using same number of digits but not altering the values.**

**Ex: if generated numbers were 1 , 1, 4, 8, 9, 27, 16 then you will write them as**

**01,01,04,08,09,27,16.**

**Ex: if generated numbers were 1, 8,11,215,1234 then you will write them as**

**0001,0008,0011,0215,1234**

**Youare directed to room number 7.**

**In room number 7, the numbers generated in room number 5 added and checked if it is even or odd?**

**If (odd) then they are sorted in decreasing order and then alternate numbers are swapped.**

**If (even) then they are sorted in increasing order and then alternate numbers are swapped.**

**Ex: if generated numbers are 1 4 2 8 6 5 7 3**

**They are converted into 2 1 4 3 6 5 8 7**

**Ex: if generated numbers are 1 4 2 8 5 7 3**

**2 1 4 3 7 5 8**

**Ex: if generated numbers are 8 2 4 6 1**

**They are converted into 6 8 2 4 1**

**Youare asked to carry this series to room number 8.**

**In room number 8, all numbers at even positions are added.**

**Ex: if numbers are 2 1 4 3 6 5 8 7 sum=16**

**Ex: if numbers are 2 1 4 3 7 5 8 sum =9**

**Ex: if numbers are 8 2 4 6 1 sum=8**

**You are asked to enter your city name.A new code word is created as follows:**

**1st letter of username 1st number from series 1st alphabet from cityname… 2nd letter of username 2nd number from series 2ndalphabet from cityname and so on…. Stop when you used up all values from any one of these.**

**Ex: username: Ashish**

**Series : 2 1 4 3 7 5 8**

**cityname : Pune**

**New code word = A2Ps1uh4ni3e**

**Youare directed to room number9.**

**In room number 9, the following operations are to be performed by the participant.**

**Esum= sum of even numbers in passcode**

**Osum=sum of odd numbers in passcode**

**Vcount= number of vowels in passcode**

**Ccount= number of consonants in passcode**

**Ex: New code word = A2Ps1uh4ni3e**

**Esum=6**

**Osum=4**

**Vcount=4**

**Ccount=4**

**Create a new passcode by removing vowels and odd numbers.**

**Newpasscode : 2Psh4n**

**A new number is formed by substituting asccii values for alphabets and finding the sum.**

**New\_num = 2+Ascii(P)+Ascii(s)+Ascii(h)+4+Ascii(n)**

**Youare directed to room number 10.**

**In room number 10,5 people needyour help to complete their tasks. The time(in minutes) they need from you to complete their task and their name and their rank is taken as input. In the end after helping everyone complete their task, you must calculate average waiting time. Note you must help them in the order of their rank. If their rank is same, then you can choose anyone among them first.Youmust tell the gate keeper the order in which you served them and average waiting time.**

**Ex:**



**o/p : order B, E,A,C, D or B,E,C,A,D and Avg\_waiting time= 8.2 minutes. Then youare directed to go to final room.**

**In the final room youaddNew\_num from room number 9 and Avg\_waiting time from room number 10. You just extract integer part of the number say luckynum and divide it by 5 to get remainder. Based on remainder youget the following messages. Print them on screen.**

**remainder 0 🡺 “ Congratulations , You won $1000000**

**remainder 1 🡺 “ Congratulations , You won $2000000**

**remainder 2 🡺 “ Congratulations , You won $3000000**

**remainder 3 🡺 “ Congratulations , You won $4000000**

**remainder 4 🡺 “ Congratulations , You won $5000000**