| NITWlogoFeb2012 | NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL  WARANGAL – 506 004  DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING  I B.Tech., I Semester (B-Section)  PSCP Theory Assignment, January 2022 |
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| Questions:  A Chapathi Maker is used in my household. The capacity of the chapathi maker is 'M' chapathis at one time. When I invite 'N' people, (and each guest is served one after another). each of them takes a minimum and maximum of 1 and 5 chapathis. The guests are started with 1 chapathi, and when they have finished it, as per their wish they are given more but upto a maximum of 5 chapathis. The condition is that no guest should go with an empty stomach and they should be fully satisfied. If the chapathis get over in between then I will prepare another batch of 'M' chapathis. Write a program for N guests and show   1. Total number of chapathis prepared, 2. The number of times of preparation and 3. thenumber of chapathis left at the end of the meal.   The program should also display how many guests ate 1 chapathi, 2 chapathis and so on till 5 chapathis. Lastly, the count of the number of guests who had the maximum number of chapathis should be shown.  [NOTE: You should not use arrays in the program. And also note that, initially one chapati given and based on his/her request one more will be given upto a maximum of 5. Some may fell stomach full after eating 1, some may feel after 2,...once it is 5 no more chapatis, we assume that he is fully satisfied.]  -----------------------------------------------------------------------------------------------------------  Example-1: If M=20 and N=6 and if the chapatis taken by each of these six guest are as shown here   | Guest Number | 1 | 2 | 3 | 4 | 5 | 6 | | --- | --- | --- | --- | --- | --- | --- | | No. of chapatis ate by the guest | 3 | 5 | 4 | 5 | 2 | 5 |   OUTPUT:  Total number of chapatis prepared is: 40  The number of times preparation is: 2  The number of chaptis left: 16  No. of guest who ate 1 chapati: 0  No. of guest who ate 2 chapati: 1  No. of guest who ate 3 chapati: 1  No. of guest who ate 4 chapati: 1  No. of guest who ate 5 chapati: 3  No. of guest who ate maximum number of chapatis: 3  ------------------------------------------------------------------------------------------------------------  Example-2: If M=10 and N=7 and if the chapatis taken by each of these seven guests are as shown here   | Guest Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | --- | --- | --- | --- | --- | --- | --- | --- | | No. of chapatis ate by the guest | 4 | 2 | 4 | 4 | 3 | 3 | 2 |   Total number of chapatis prepared is: 30  The number of times preparation is: 3  The number of chaptis left: 8  No. of guest who ate 1 chapati: 0  No. of guest who ate 2 chapati: 2  No. of guest who ate 3 chapati: 2  No. of guest who ate 4 chapati: 3  No. of guest who ate 5 chapati: 0  No. of guest who ate maximum number of chapatis: 3  ------------------------------------------------------------------------------------------------------------ |
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| Paste the code (NOT the screen shot of the code)  #include <iostream>  #include <cmath>  using namespace std;  void chapatifunction(int chap,int guest){  int counter,count0 =0,count1 =0,count2=0,count3=0,count4=0,count5=0;  int times=0,maxi;  float sum=0;  for(int i=1;i<=guest;i++){  cout << "new guest enters" << endl;  counter =0;  while(counter<5){  cout << "enter 1 if guest wants one more chapati : ";  int choice;cin >> choice;  if(choice==1){  counter++;  sum = sum + 1;  }  else{  break;  }  }  cout << "guest ate " << counter << " chapatis" << endl;  switch(counter){  case 1:  count1++;break;  case 2:  count2++;break;  case 3:  count3++;break;  case 4:  count4++;break;  case 5:  count5++;break;  }  }  if (count5==0){  if(count4==0){  if(count3==0){  if(count2==0){  maxi = count1;  }  else{  maxi = count2;  }  }  else{  maxi = count3;  }  }  else{  maxi = count4;  }  }  else{  maxi = count5;  }  times = ceil(sum/chap);  cout << "total number of chapatis prepared is : " << times\*chap << endl;  cout << "the number of times preparation is : " << times << endl;  cout << "the number of chapatis left is : " << (times\*chap)-sum << endl;  cout << "no. of guests who ate 1 chapati are : " << count1 << endl;  cout << "no. of guests who ate 2 chapati are : " << count2 << endl;  cout << "no. of guests who ate 3 chapati are : " << count3 << endl;  cout << "no. of guests who ate 4 chapati are : " << count4 << endl;  cout << "no. of guests who ate 5 chapati are : " << count5 << endl;  cout << "no. of guests who ate maximum number of chapatis : " << maxi << endl;  }  int main(){  cout << "enter number of chapatis per batch : ";  int m;cin >> m;  cout << "Enter number of guests : ";  int n;cin >> n;  chapatifunction(m,n);  return 0;  }  Paste the Screen shot showing results  OUTPUT 1:      OUTPUT 2: |