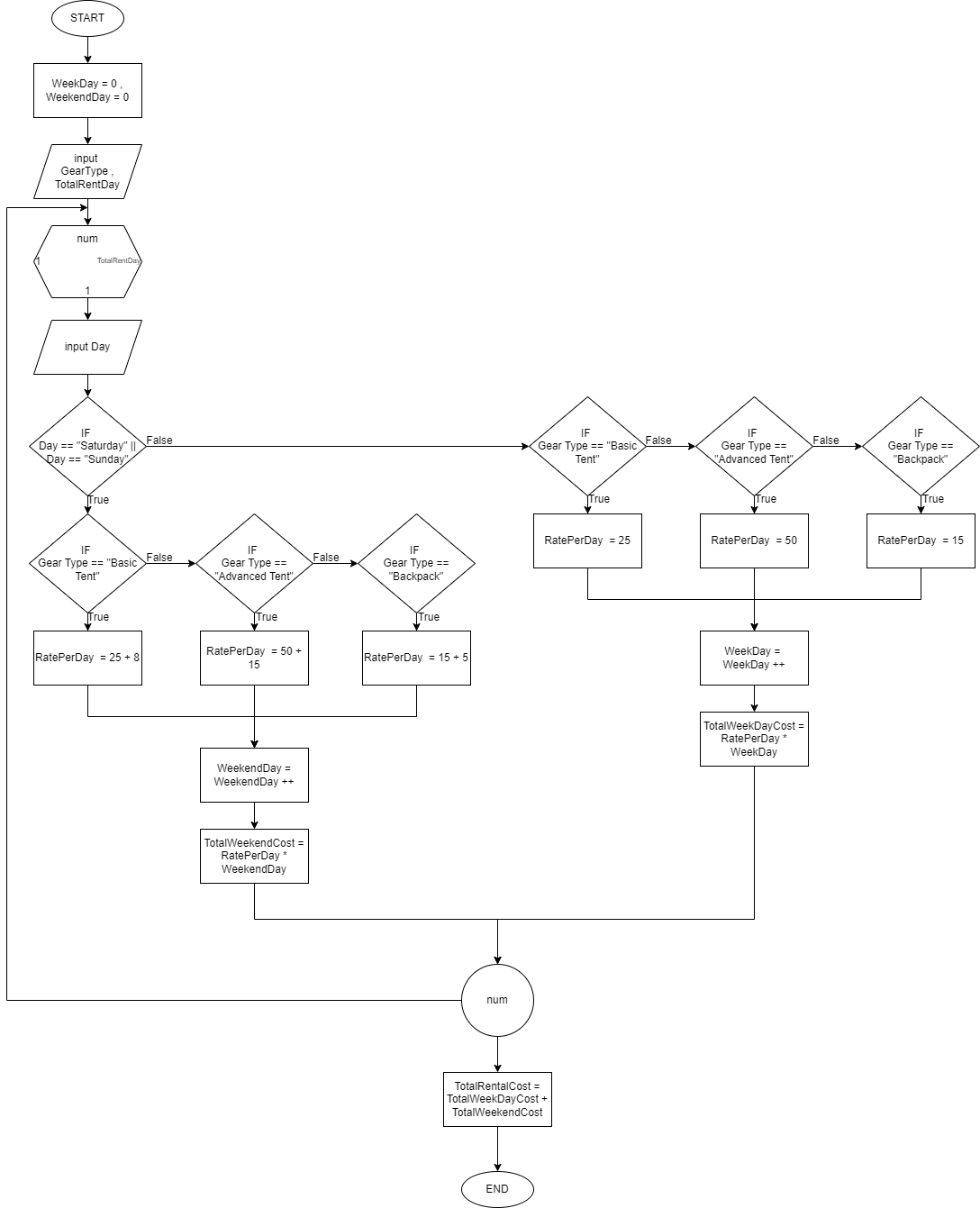
**Bonus Exercise 1**

Algoritm

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| --- |
| START  WeekDay = 0 , WeekendDay = 0  input GearType , TotalRentDay  FOR num = 1 TO TotalRentDay  input Day  IF Day == "Saturday" || Day == "Sunday" THEN  IF Gear Type == "Basic Tent" THEN  RatePerDay = 25 + 8  ELSE IF Gear Type == "Advanced Tent" THEN  RatePerDay = 50 + 15  ELSE IF Gear Type == "Backpack" THEN  RatePerDay = 15 + 5  ENDIF  WeekendDay = WeekendDay ++  TotalWeekendCost = RatePerDay \* WeekendDay  ELSE  IF Gear Type == "Basic Tent" THEN  RatePerDay = 25  ELSE IF Gear Type == "Advanced Tent" THEN  RatePerDay = 50  ELSE IF Gear Type == "Backpack" THEN  RatePerDay = 15  ENDIF  WeekDay = WeekDay ++  TotalWeekDayCost = RatePerDay \* WeekDay  ENDIF  ENDFOR  TotalRentalCost = TotalWeekDayCost + TotalWeekendCost  END |

Flowchart

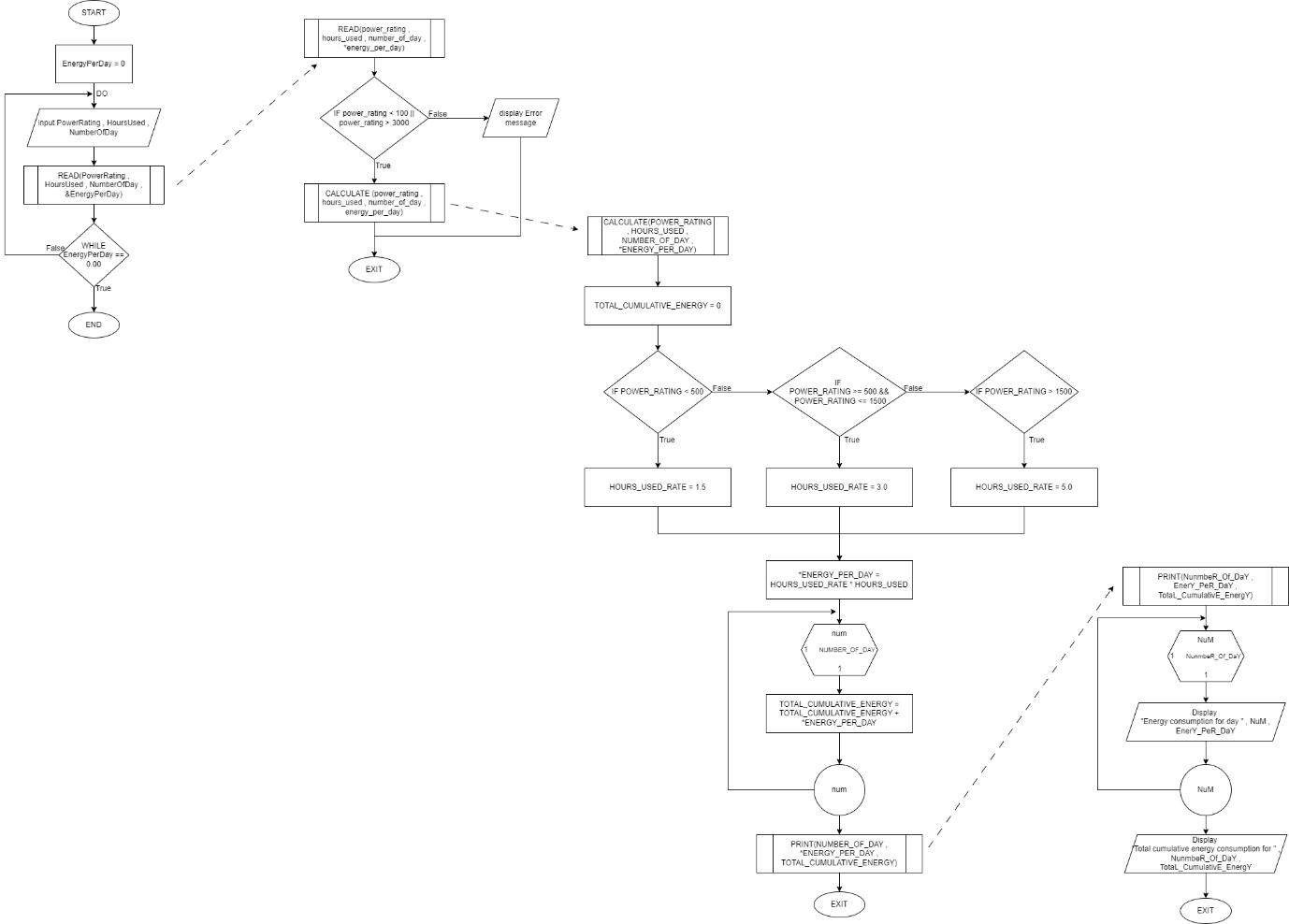


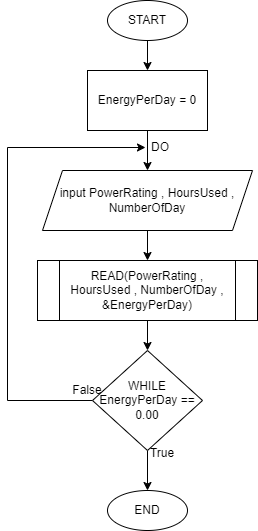
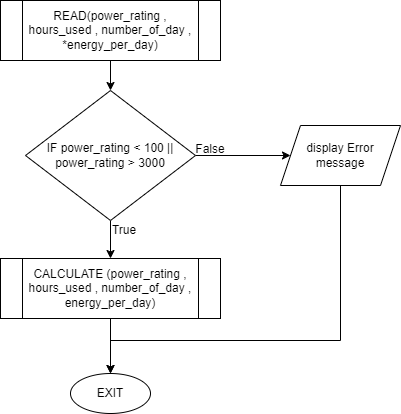
**Bonus Exercise 2**

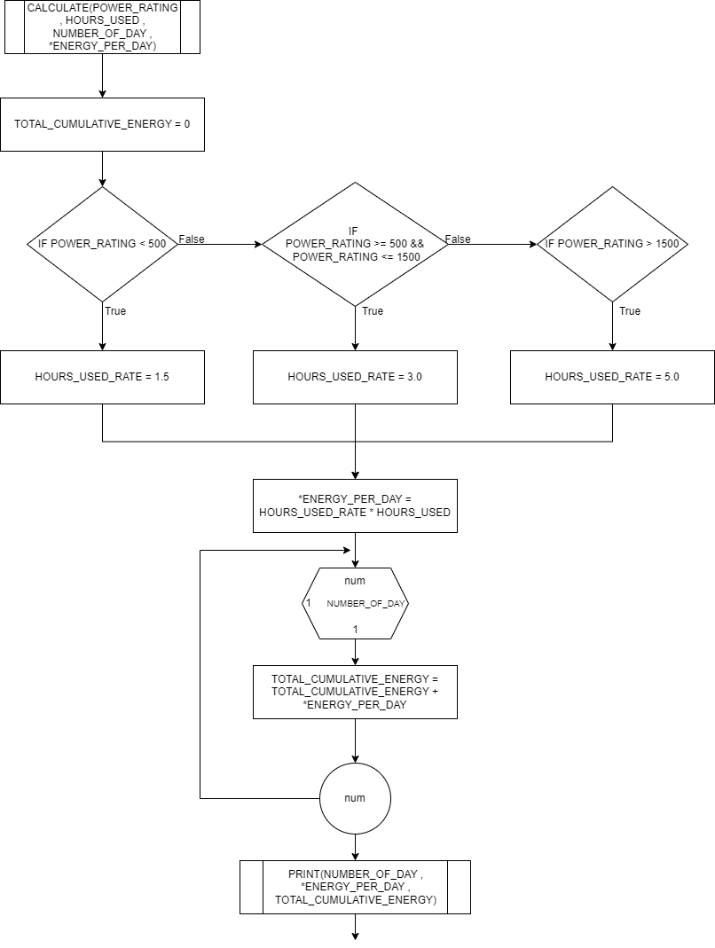
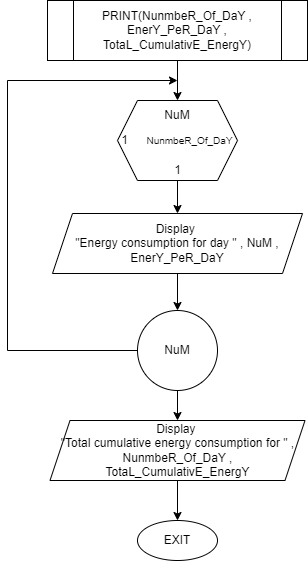
**Question 1**

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| PRINT(NunmbeR\_Of\_DaY , EnerY\_PeR\_DaY , TotaL\_CumulativE\_EnergY)  FOR NuM = 1 TO NunmbeR\_Of\_DaY  Display "Energy consumption for day " , NuM , EnerY\_PeR\_DaY  ENDFOR  Display "Total cumulative energy consumption for " , NunmbeR\_Of\_DaY , TotaL\_CumulativE\_EnergY  EXIT  CALCULATE(POWER\_RATING , HOURS\_USED , NUMBER\_OF\_DAY , \*ENERGY\_PER\_DAY)  TOTAL\_CUMULATIVE\_ENERGY = 0  IF POWER\_RATING < 500 THEN  HOURS\_USED\_RATE = 1.5  ELSE IF POWER\_RATING >= 500 && POWER\_RATING <= 1500 THEN  HOURS\_USED\_RATE = 3.0  ELSE IF POWER\_RATING > 1500 THEN  HOURS\_USED\_RATE = 5.0  ENDIF  \*ENERGY\_PER\_DAY = HOURS\_USED\_RATE \* HOURS\_USED  FOR num = 1 TO NUMBER\_OF\_DAY  TOTAL\_CUMULATIVE\_ENERGY = TOTAL\_CUMULATIVE\_ENERGY + \*ENERGY\_PER\_DAY  ENDFOR  PRINT(NUMBER\_OF\_DAY , \*ENERGY\_PER\_DAY , TOTAL\_CUMULATIVE\_ENERGY)  EXIT  READ(power\_rating , hours\_used , number\_of\_day , \*energy\_per\_day)  IF power\_rating > 100 && power\_rating < 3000 THEN  CALCULATE (power\_rating , hours\_used , number\_of\_day , energy\_per\_day)  ELSE  display Error message  ENDIF  EXIT  START  EnergyPerDay = 0  DO  input PowerRating , HoursUsed , NumberOfDay  READ(PowerRating , HoursUsed , NumberOfDay , &EnergyPerDay)  WHILE EnergyPerDay == 0.00  END |

**Question 2**



**Question 3**

Codding Base on algorihm in Question 1 (With Module)

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| //CB24019 - PUTERA NAQIB KHUSAIRI BIN ASRI  #include <stdio.h>  #include <string.h>  void print(int NumbeR\_Of\_DaY ,float EnerY\_PeR\_DaY ,float TotaL\_CumulativE\_EnergY)  {  for(int NuM = 1; NuM <= NumbeR\_Of\_DaY ; NuM++)  {  printf("\nEnergy consumption for day %d: %.1f kWh", NuM , EnerY\_PeR\_DaY);  }  printf("\nTotal cumulative energy consumption for %d days: %.1f kWh\n", NumbeR\_Of\_DaY , TotaL\_CumulativE\_EnergY);  }  void calculate(int POWER\_RATING ,int HOURS\_USED ,int NUMBER\_OF\_DAY ,float \*ENERGY\_PER\_DAY)  {  float TOTAL\_CUMULATIVE\_ENERGY = 0 , HOURS\_USED\_RATE;  if(POWER\_RATING < 500)  {  HOURS\_USED\_RATE = 1.5;  }  else if(POWER\_RATING >= 500 && POWER\_RATING <= 1500)  {  HOURS\_USED\_RATE = 3.0;  }  else if(POWER\_RATING > 1500)  {  HOURS\_USED\_RATE = 5.0;  }  \*ENERGY\_PER\_DAY = HOURS\_USED\_RATE \* HOURS\_USED;  for(int num = 1; num <= NUMBER\_OF\_DAY; num++)  {  TOTAL\_CUMULATIVE\_ENERGY = TOTAL\_CUMULATIVE\_ENERGY + \*ENERGY\_PER\_DAY;  }  print(NUMBER\_OF\_DAY , \*ENERGY\_PER\_DAY , TOTAL\_CUMULATIVE\_ENERGY);  }  void read(int power\_rating ,int hours\_used ,int number\_of\_day ,float \*energy\_per\_day , char name[250] , char address [250] , char mobile\_no [250])  {  if(power\_rating > 100 && power\_rating < 3000)  {  calculate(power\_rating , hours\_used , number\_of\_day , energy\_per\_day);  }  else  {  printf("Please Insert power rating between 100 and 3000 only\n");  system("pause");  system("cls");  printf("Name: %s\n",name);  printf("Address: %s\n",address);  printf("Mobile No: %s\n",mobile\_no);  }  }  int main()  {  char Name[250] , Address [250] , MobileNo [250];  int PowerRating , HoursUsed , NumberOfDay;  float EnergyPerDay;  printf("Name: ");  gets(&Name);  printf("Address: ");  gets(&Address);  printf("Mobile No: ");  gets(&MobileNo);  do  {  printf("\nEnter power rating for appliance (W): ");  scanf("%d",&PowerRating);  printf("Enter number of hours used per day: ");  scanf("%d", &HoursUsed);  printf("Enter number of days: ");  scanf("%d", &NumberOfDay);  read(PowerRating , HoursUsed , NumberOfDay , &EnergyPerDay , Name , Address , MobileNo);  }  while(EnergyPerDay == 0.00);  printf("Thank you");  return 0;  } |

Codding Not Base on algorihm in Question 12 (Without Module)

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| //CB24019 - PUTERA NAQIB KHUSAIRI BIN ASRI  #include <stdio.h>  #include <string.h>  int main()  {  char Name[250] , Address [250] , MobileNo [250];  int PowerRating , HoursUsed , NumberOfDay;  float EnergyPerDay , TotalCumlativeEnergy = 0 , HoursUsedRate;  printf("Name: ");  gets(&Name);  printf("Address: ");  gets(&Address);  printf("Mobile Number: ");  gets(&MobileNo);  do  {  printf("\nEnter power rating for appliance (W): ");  scanf("%d",&PowerRating);  printf("Enter number of hours used per day: ");  scanf("%d", &HoursUsed);  printf("Enter number of days: ");  scanf("%d", &NumberOfDay);  if(PowerRating > 100 && PowerRating < 3000)  {  if(PowerRating < 500)  {  HoursUsedRate = 1.5;  }  else if(PowerRating >= 500 && PowerRating <=1500)  {  HoursUsedRate = 3.0;  }  else if(PowerRating > 1500)  {  HoursUsedRate = 5.0;  }  EnergyPerDay = HoursUsedRate \* HoursUsed;  for(int num = 1; num <= NumberOfDay; num++)  {  TotalCumlativeEnergy = TotalCumlativeEnergy + EnergyPerDay;  }  printf("\nTotal Energy Consumption: %.1f kWh\n", TotalCumlativeEnergy);  }  else  {  printf("Please Insert power rating between 100 and 300 only\n");  system("pause");  system("cls");  printf("Name: %s\n",Name);  printf("Address: %s\n",Address);  printf("Mobile Number: %s\n",MobileNo);  }  }  while(EnergyPerDay == 0.00);  printf("Thank You");  return 0;  } |