DATE:7.11.14

**ASSIGNMENT NO.2**

->PROBLEM STATEMENT:

Write a program in C to input marks in five subjects.Find the total and average marks and compute the grade according to the following rules

|  |  |
| --- | --- |
| AVERAGE | GRADE |
| >=80 | A |
| >=65&&<80 | B |
| >=50&&<65 | C |
| >=35&&<50 | D |
| <35 | F |

**->ALGORITHM:**

**Step 1:-** Input the marks in five subjects,each out of hundred, a,b,c,d,e,f

**Step 2:-** Find the total *t=a+b+c+d+e+f*

**Step 3:-**Find the average *ave=t/5*

**Step 4:-** If (ave>=80) Then

1. *grade=’A’*

[End of if structure]

**Step 5:-** If(ave>=65&&ave<80)Then

1. *grade=’B’*

**[**End of if structure]

**Step 6:-** If (ave>=50&&ave<65) Then

1. *grade=’C’*

[End of if structure]

**Step 7:-** If (ave>=35&&ave<50)Then

1. *grade=’D’*

End of if structure]

**Step 8:-** If (ave<35) Then

1. *grade=’F’*

[End of if structure]

**Step 9**:-Print the character variable grade

**Step 7:-** End

->CODE:

/\*====================MARK SHEET================\*/

#include<stdio.h>

#include<conio.h>

void main()

{

/\*Declaration of variables\*/

int a,b,c,d,e,f,t;

float ave;

char grade;

/\*Input the marks of five subjects each out of hundred\*/

clrscr();

printf("\n enter the marks in english\n");

scanf("%d",&a);

printf("\n enter the marks in bengali\n");

scanf("%d",&b);

printf("\n enter the marks in science\n");

scanf("%d",&c);

printf("\n enter the marks in maths\n");

scanf("%d",&d);

printf("\n enter the marks in environmental science\n");

scanf("%d",&e);

/\*Dispaly the marks of five subjects\*/

printf("\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*REPORT CARD\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");

printf("\n SUBJECT\t\t\t\t\tMARKS\n");

printf("\nENGLISH\t\t\t\t\t\t%d",a);

printf("\nBENGALI\t\t\t\t\t\t%d",b);

printf("\nSCIENCE\t\t\t\t\t\t%d",c);

printf("\nMATHS\t\t\t\t\t\t%d",d);

printf("\nE.V.E\t\t\t\t\t\t%d",e);

/\*Find the total marks\*/

t=a+b+c+d+e;

printf("\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");

printf("\nTOTAL MARKS \t\t\t\t\t%d",t);

/\*Find the average\*/

ave=(float)t/5;

printf("\nAVERAGE MARKS\t\t\t\t\t%f",ave);

/\*Find the grade accordingly\*/

if(ave>=80)

{

grade='A';

}

if(ave>=65&&ave<80)

{

grade='B';

}

if(ave>=50&&ave<65)

{

grade='C';

}

if(ave>=35&&ave<50)

{

grade='D';

}

if(ave<35)

{

grade='F';

}

printf("\nGRADE IS \t\t\t\t\t%c",grade);

getch();

}

->**OUTPUT :**

/\*===============OUTPUT===================\*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*1ST RUN\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

enter the marks in english

45

enter the marks in Bengali

45

enter the marks in science

68

enter the marks in maths

90

enter the marks in environmental science

69

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*REPORT CARD\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SUBJECT MARKS

ENGLISH 45

BENGALI 45

SCIENCE 68

MATHS 90

E.V.E 69

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

TOTAL MARKS 317

AVERAGE MARKS 63.400002

GRADE IS C

\*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*2ND RUN\*\*\*\*\*\*\*\*\*\*\*\*\*\*

enter the marks in english

79

enter the marks in bengali

67

enter the marks in science

80

enter the marks in maths

90

enter the marks in environmental science

94

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*REPORT CARD\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SUBJECT MARKS

ENGLISH 79

BENGALI 67

SCIENCE 80

MATHS 90

E.V.E 94

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

TOTAL MARKS 410

AVERAGE MARKS 82.000000

GRADE IS A

\*/

**->DISCUSSION:**

1. **HEADER FILES** contain definitions of functions and variables which can be incorporated into any C program by using the pre-processor *#include* statement. Standard header files are provided with each compiler, and cover a range of areas, string handling, mathematical, data conversion, printing and reading of variables. This is done at the beginning of the C source file. Some header files are :-
   1. “stdio.h”- This is standard input output. It is used for the library functions printf and scanf.
   2. “conio.h”- This is console input output.
2. **DATATYPES :**

C language is rich in its data types. Storage representations and machine instructions to handle constants differs from machine to machine. The variety of data types available the programmer to select the type appropriate to the needs of the application as well as machine. Some data types are –int, float, char, etc

**3**.**LOGICAL OPERATORS**

|  |  |  |
| --- | --- | --- |
| Operator | Description | Example |
| && | Called logical AND operator. If both the conditions satisfies then the statement inside it executes. | If(a>b&&a>c){  Printf(“ number is%d”,a);} |
| || | Called logical OR operator. If any of the two conditions is true or both are true then the statement executes. | if(a%2==0||b%2==0){  printf(“even numbers”);} |
| ! | Called logical NOT operator.the statement executes when condition is false. | if(a%2!=0){printf  (“odd numbers”);  } |

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |