# CA226 – WinMips64 Floating point exercise II

Sum the series



For *z*=0.75. Use enough terms to yield a constant answer (i.e. until any further terms in the series are so small they do not affect the result.)

### Its simpler than it looks - the first few terms are

1- *z* - *z*2 + *z*5 + *z*7 - *z*12 - *z*15 +*z*22+*z*26….

* Write a program in Java or C++ to calculate the correct answer, e.g.

double z,z2,z3,a,b,diffa,diffb,sum;

int i;

z=0.75;

z2=z\*z; // z2

z3=z2\*z; // z3

a=z;

b=z2;

diffa=z2\*z2; // z4

diffb=z2\*z3; // z5

sum=1.0;

for (i=0;i<5;i++) // is 5 enough?

{

sum=sum-a-b;

a\*=diffa;

b\*=diffb;

diffa\*=z3;

diffb\*=z3;

sum=sum+a+b;

a\*=diffa;

b\*=diffb;

diffa\*=z3;

diffb\*=z3;

}

cout << “sum= “ << sum;

Convert the program to MIPS64 and get it working in WinMIPS64 using the minimum number of cycles (using default settings).

Hint: Use a different register for every variable.