Programming Assignment—Palindromes

Due Wednesday November 6
Lab day Monday November 4

Write an MC68000 Assembly Language program that will test lines of text to see if they are palindromes. The program should prompt for and read a line of text (up to 80 characters long) and then print either “That was a palindrome” or “That was not a palindrome”.

For purposes of this assignment, a “palindrome” is a line of text in which the alphabetic characters read the same forward and backward, ignoring letter case. Blanks and punctuations characters are not significant in determining whether or not the input is a palindrome.

Design your program to copy the alphabetic characters from the input to a separate buffer, and then check them by scanning forward from the beginning and backwards from the end, quitting when the two pointers meet in the middle.

Example:
Enter a suspected palindrome:
Madam, I’m Adam.
That was a palindrome.

Some more inputs to try

Rats live on no evil star.
Straw, no, too stupid a fad, I put soot on warts.
I roaming under it as a tired, nude Maori.
A man, a plan, a canal; Panama?
A man, a plan, a cat, a canal; Panama?
A man, a plan, a cat, a ham, a yak, a yam, a hat, a canal—Panama!
Go deliver a dare, vile dog.
Able was I, ere I saw Elba!
If I had a hi-fi...
Rise to vote sir.
Madam I’m Adam.
A Toyota! Race fast, safe car. A Toyota...
Sit on a potato pan, Otis.
Top step’s pug’s pet spot.
Lisa Bonet ate no basil.
Toni Tennille fell in net. I, not!
Man, Oprah’s sharp on A.M.
Damn! I, Agassi, miss again! Mad!
(…Yawn.) Madonna Fan? No damn way!
E. Borgnine drags Dad’s gardening robe.
Neil A. sees alien!
Is Don Adams mad? (A nod.) Si!
No, Mel Gibson is a casino’s big lemon.
Alan Alda stops racecar, spots ad: “Lana-L.A.”
Cain: A maniac!
Ed, I saw Harpo Marx ram Oprah W. aside.
I, Rasputin, knit up Sari.
O, geronimo, no minor ego!
Plan no damn Madonna L.P.
Sis, ask Costner to not rent socks “As Is”!
So, G. Rivera’s toots are virgins.
T. Eliot nixes sex in toilet!
Ah, Satan sees Natasha.
Camus sees sumac.
Cigar? Toss it in a can, it is so tragic.
Denim axes examined.
Dennis and Edna sinned.

Drat Saddam, a mad dastard!
Draw, o coward!
Egad! No bondage!
Egad, an adage!
Flesh! Saw I Mimi wash self!
Gert, I saw Ron avoid a radio-van—or was it Reg?
Gnu dung.
Golf? No sir, prefer prison-flog.
Lager, Sir, is regal.
Lepers repel.
Ma is a nun, as I am.
Naomi, did I moan?
Ned, go gag Ogden.
Never odd or even.
No lemons, no melon.
Now Ned, I am a maiden nun: Ned, I am a maiden won.
O.E.D. or rodeo?
Pa’s a sap.
Poor Dan is in a droop.
Renoloner
“Reviled did I live,” said I, “as evil I did deliver.”
Rise, take lame female Kate, sir.
Senile Felines
Sex at noon taxes.
Sir, I soon saw Bob was no Osiris.
Sit on a potato pan, Otis.
So, Ida, adios!
Star comedy by Democrats.
Stella won no wallets
Step on no pets!
Tarzan raised Desi Arnaz’ rat.
Too bad, I hid a boot.
Tuna nut
Yawn a more Roman way.
Do geeze see God?
Mr. Owl ate my metal worm.
Flee to me, remote elf.
Wanton? Not now.
Devil never even lived.